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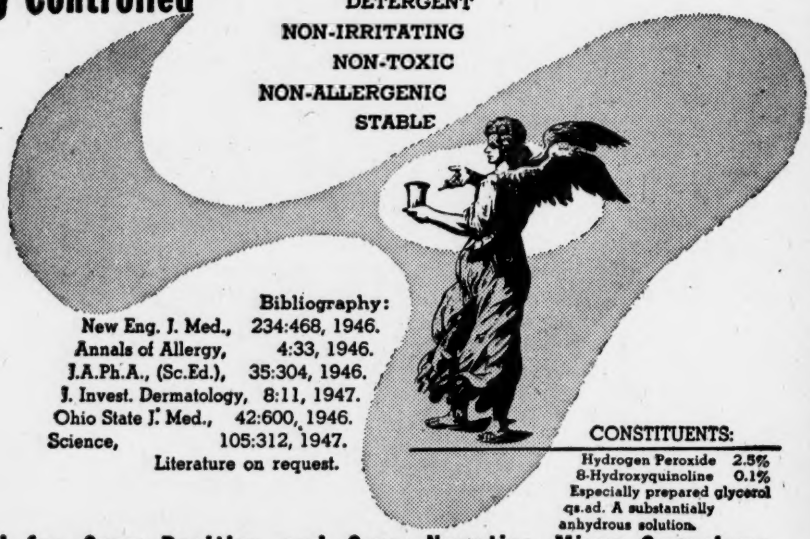

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Original Articles

International Nomenclature and Classification of Neoplasms*

WILLIAM CARPENTER MacCARTY, M.S., M.D., F.A.C.P., F.I.C.S. (Hon.)
ROCHESTER, MINNESOTA

INTRODUCTION

THE history of our knowledge of nomenclatures and classifications of neoplasms began in ancient times and has evolved slowly throughout many linguistically different and widely separated countries and their people. The slow and widely separated development is characterized by many frequent changes, contemporaneous differences, numerous colloquialisms, natural linguistic provincialisms, crude gross descriptive local names of unrelated things, names of long forgotten describers of tumors, corrupt philologic derivations, confusing synonyms, lack of accurate cytologic, histologic and biologic knowledge, artefacts due to antemortem and postmortem cytologic changes, distorting staining and impregnation methods, and especially by resultant harmful clinical confusion. Rarely, if ever, does one pathologist or clinician know just what others are speaking or writing about. No two textbooks use the same nomenclature and classification. The following condensed list of names will serve to substantiate the statements I have just made, if it is closely studied; it shows the number of different modifying terms used in the literature.†

Adenoma	61
Adamantinoma	9
Angioma	58
Blastoma	27
Cancer	17
Carcinoma	107
Chloroma	4
Chondroma	12
Cyst	24
Cytoma	12
Cystoma	18
Elephantiasis	6
Endothelioma	50
Epithelioma	32
Fibroma	55
Glioma	25
Lipoma	24
Lymphoma	15
Myoma	33
Myxoma	23
Neuroma	25
Nevus	25
Osteoma	14
Polyp	20
Sarcoma	158
Teratoma	8
Tumor	14
Xanthoma	15
Miscellaneous	248
Total	1,139

* Read at the Eleventh National Assembly, U. S. Chapter, International College of Surgeons, Detroit, Michigan, Oct. 22, 1946.

† A rather complete list is published in Surg., Gynec. & Obst. 59:317–328, Feb. 15, 1932.

There comes a time in the history of every art and science, especially in this age of diminishing distances and closer human contacts, when the past and present must be reviewed and evaluated in terms of old and new scientific facts and our practical needs.

EVOLUTION OF NORMAL TISSUES

To understand the proposed readjustment of our knowledge of facts, nomenclature and classification relative to neoplasms, we must first look at some fundamental scientific facts; we must understand, without theorizing, the normal evolution of cells which constitute the adult tissues of the human body and their response to destruction which occurs from injury and normal senescence during function:

1. The human body has its origin in the union of two cells—the ovocyte (female) and the spermatocyte (male); this union is known as *fertilization* (Fig. 1).

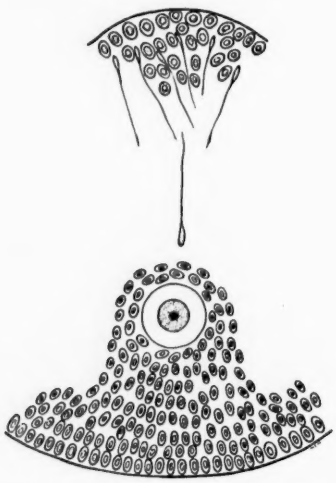

Fig. 1.—Ovocyte and spermatocyte.

2. As a result of fertilization the ovocyte divides and the successive cells continue division, thereby producing many cells; this process is called *segmentation.*

3. During the process of segmentation, the resultant masses of cells become segregated and also aggregated to form specialized and differentiated tissues which are again segregated and aggregated into organs which are arranged into systems, the grand structural and functional total of which is the whole organism.

4. During the processes of segregation and aggregation two phenomena occur—change of form of the cells known as *differentiation,* and division of function known as *specialization.*

5. As a result of *fertilization, segmentation, segregation, aggregation, differentiation* and *specialization,* at least 45 different cells (cytes) develop (Fig. 2 and Chart 1); these can be recognized in the fresh, unembedded, unstained state if the oil immersion lens is used and if histologists and histopathologists become biocytologists.

6. In the course of life all of the 45 cells are regenerated or replaced if destroyed by injury or function; this occurs in two forms—direct and indirect. Some cells are so primitive that they are regenerated directly by division of the cells themselves; others are regenerated indirectly from cells set aside as partially differentiated cells, known as the cells of the stratum or locus germinativum, such as one sees in the skin, accessory organs of the skin, the prostate and the bone marrow.

7. Normal cellular regeneration by either method in the renewal of specific tissue cells or their replacement shows a definite relationship between the rate of hyperplasia or increase in number and the rate of differentiation or the assumption of adult form. This is illustrated diagrammatically in Figure 3.

EVOLUTION OF NEOPLASMS

There are several factors in the evolution of neoplasms: (a) the biologic factor of destruction of some differentiated tissue; (b) the many, and probably different, specific factors which cause destruction; (c) the relation of the body's natural defensive mechanism (at least lymphocytic infiltration, fibrosis and hyalinization) to destruction, and (d) the failure of complete regeneration and repair after destruction.

Whatever the specific factors may be, there occurs a biologic disturbance of the relationship between the rate of hyperplasia or increase in number of cells and the rate of differentiation or change of form of the cells which are stimulated to increase in number;

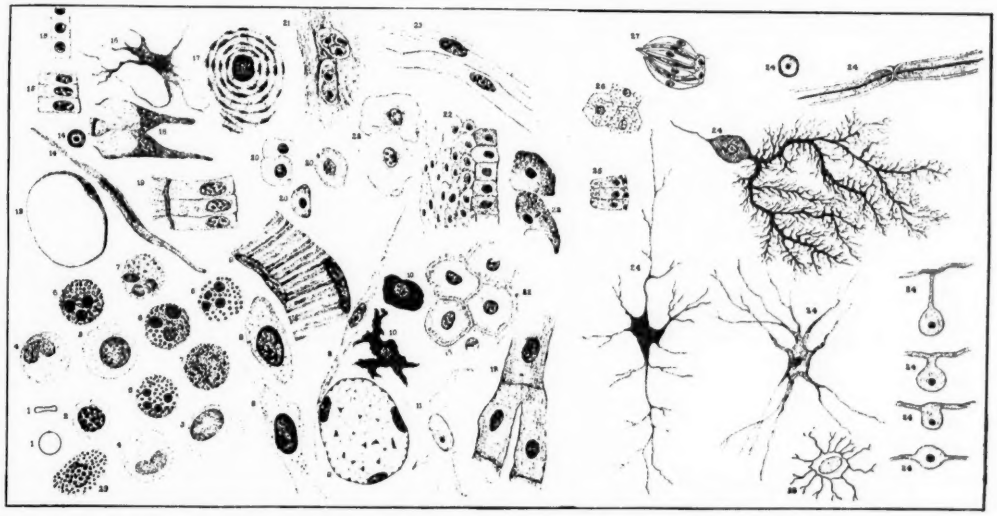

Fig. 2.—Different cells derived from fertilized ovocyte: *1*, erythrocytes; *2*, lymphocytes; *3*, "large lymphocytes" (probably endotheliocytes); *4*, "transitional cells" (probably degenerating endotheliocytes); *5*, leukocytes (neutrophilic); *6*, leukocytes (eosinophilic); *7*, leukocytes (basophilic); *8*, fibrocytes (in different stages); *9*, rhabdomyocytes; *10*, melanocytes (pigmented epitheliocytes); *11*, myxocytes (fibrocytes in fluid medium); *12*, cardiomyocytes; *13*, lipocytes; *14*, leiomyocytes; *15*, *18* and *19*, adenocytes (some of 16 varieties); *16*, and *24*, neurocytes; *17*, osteocytes; *20*, endotheliocytes; *21*, chondrocytes; *22*, epitheliocytes; *23*, tendocytes; *25*, sudorocytes; *26*, sebocytes; *27*, gustocytes; *28*, gliocytes; *29*, plasmo-(lympho-?) cytes.

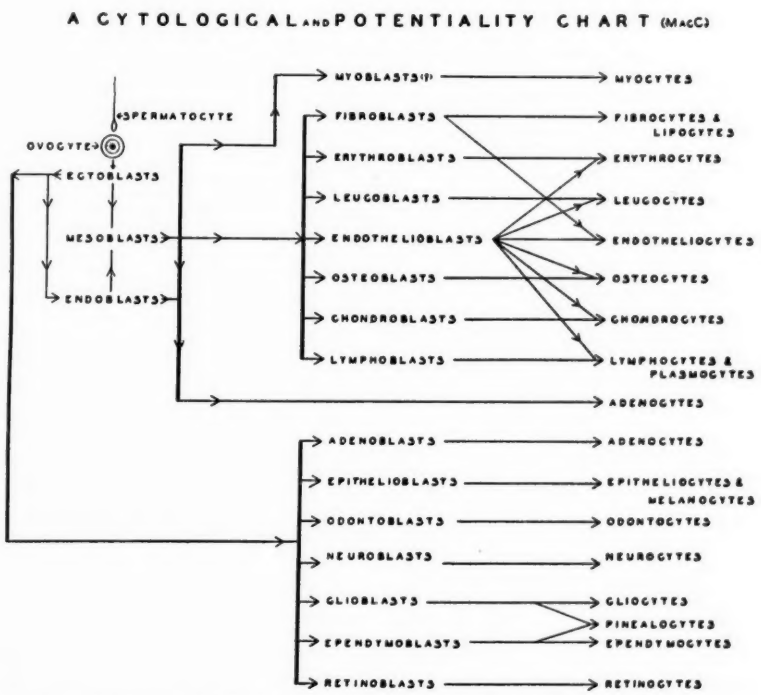

Chart 1.—Evolution of adult cells (cytes) from ectoblasts, endoblasts and mesoblasts which give rise to various blasts, immediate ancestors of various cytes. Many blasts can produce different cytes. Cytomas consist of cytes, blastomas and blasts.

this disturbance of the two rates manifests itself in two forms:

1. In some instances both rates are increased but remain parallel, as shown diagrammatically in Figure 4; the cells have the morphology and arrangement of normal tissue; they form normal-appearing tissues which are merely increased in amount. Such masses are usually fairly well circumscribed. I think of these masses as neoplasms and have called them *cytomas* because they are composed of adult or differentiated cells or cytes instead of young undifferentiated cells or blasts; they are clinically relatively benign, although they may kill their hosts by expansive growth; they may destroy the organ in which they arise, and neighboring organs or vital structures by pressure and displacement. Cytomas of practically all tissues occur:

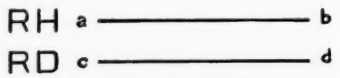

Fig. 3.—Diagram showing horizontal parallel relation of rate of hyperplasia *(RH a b)* and rate of differentiation *(RD c d)* in normal regeneration and repair of tissues.

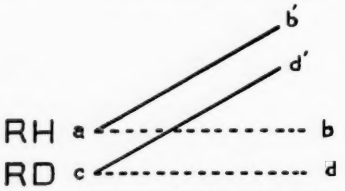

Fig. 4.—Diagram showing parallel increase of rate of hyperplasia *(RH a b′)* as seen in cytomas. Cells are increased in number and have adult morphology and arrangement.

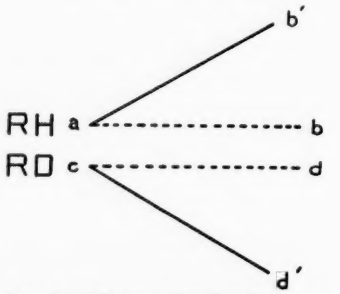

Fig. 5.—Diagram showing increase in rate of hyperplasia *(RH a b′)* and decrease of rate of differentiation *(RD c d′)* as seen in blastomas. Cells are increased, have the morphology of regenerative cells with large nuclei and nucleoli and have somewhat of the arrangements of adult tissue.

*adeno-
chondro-
endothelio-
epithelio-
fibro-
glio-
lipo-
**lympho-
***erythro-
†leuko-
‡melano-
§myo-
‖myxo-
neuro-
odonto-
osteo-
etc.

} cytomas (relatively benign)

2. In some instances the rate of hyperplasia is increased and the rate of differentiation is very apparently decreased (Fig. 5). The cells do not have the morphology of adult or differentiated cells; they are undifferentiated or only partially differentiated and have relatively larger nuclei and nucleoli, although

* There are about sixteen different types of adenocytes—those arising as accessory glands of the skin, those of the alimentary tract and its accessory organs, those of the adrenals, kidneys, uterus, tubes, ovaries and testes. Each may be designated by the prefix derived from the Latin name of the particular organ.

** A lymphocytoma is composed of lymphocytes; the best example is the so-called Mikulicz disease, which is usually a bilateral replacement of the parenchyma of the salivary and lacrimal glands by lymphocytes. The best examples of lymphoblastoma are seen in the lymph nodes and other tissues in the condition called Hodgkin's disease, lymphatic leukemia and lymphosarcoma in which the dominant cells are lymphoblasts.

*** Massive increases in the number of erythrocytes rarely, if ever, occur except in the condition known as polycythemia, which is cytologically and biologically comparable to the increase of adult cells in cytomas.

† The only leukocytic condition which corresponds cytologically and biologically to a cytoma is a leukocytosis in which there is an increase in leukocytes. A leukemia is not made up of leukocytes but leukoblasts and is analagous cytologically and biologically to the blastomas.

‡ Melanocytomas and melanoblastomas arise from the stratum germinativum of the skin and particularly from pigmented moles and the choroid of the eye. There are nonpigmented moles which give rise to similar neoplasms without pigment and have been rather inconsistently called "nonpigmented melano-epitheliomas."

§ There are three types of myocytes (rhabdo-, leio- and cardio-). True myocytomas and myoblastomas are very rare, although they have been described.

‖ Myxocytes and myxoblasts are in reality, respectively, fibrocytes and fibroblasts growing in a loose medium which permits their somewhat stellate form. The term might still be used because most pathologists have considered such cells separate entities.

they usually have an arrangement somewhat resembling that of some normal tissue with, however, disturbance of the line of demarcation between the cells and the stroma; they are invading this stroma. Such masses are not usually circumscribed; the newly formed cells are often found in the lymph spaces, the lymphatic channels, blood vessels and regional lymph nodes, and are frequently found in distant organs and other tissues as metastases. Such invasive and metastasizing masses or neoplasms I have called *blastomas* because they are composed of undifferentiated or only partially differentiated cells or blasts; they are clinically relatively malignant in that they not only grow expansively but invasively and form distant metastases, thereby destroying surrounding and distant tissues and organs. There are blastomas occurring in practically all tissues and organs in the body:

*adeno-
chondro-
endothelio-
epithelio-
fibro-
glio-
lipo-
**lympho-
***erythro-
†leuko-
‡melano-
§myo-
‖myxo-
neuro-
odonto-
osteo-
etc.
} blastomas (relatively less benign)

In some, and rarer, instances, the rate of hyperplasia is increased to an apparent maximum and the rate of differentiation decreased to an apparent minimum (Fig. 6). The cells in this condition do not resemble any adult cell and have not the arrangement of any adult tissue; they are merely very young round cells with relatively greater increase in size of nuclei and nucleoli. In rapidly growing blastomas one may even see some areas which lead to the belief that some blastomas reach this extreme stage of neoplasia. Such neoplasms usually grow very rapidly by expansion and invasion and form metastases; they are clinically relatively very malignant. Such neoplasms I have called *problastomas* because it is impossible to state accurately just what tissue they would form if they became differentiated. They have no specific

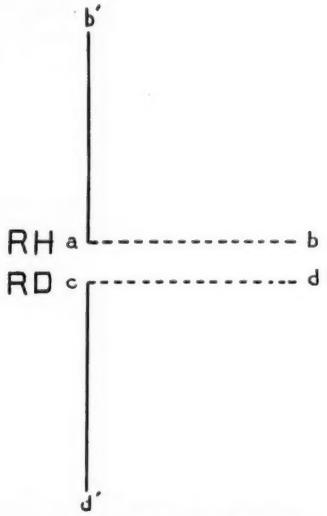

Fig. 6.—Diagram showing maximal increase in rate of hyperplasia *(RH a b')* and minimal decrease in rate of differentiation *(RD c d')* as seen in problastomas. Cells do not have any morphologic resemblance to any adult cells and no arrangement resembling that of any adult tissue.

designating prefix because their origin cannot be determined from cellular morphology or arrangement. They occur in all parts of the body and have their origin, like all neoplasms, in the regenerative cells of tissues.

Some neoplasms, although relatively rarely, are composed of more than one neoplastic tissue. The new tissues may be in the cytomatous or blastomatous phases or both. Such neoplasms may be called *polycytomas* and *polyblastomas*, to which the appropriate designating prefixes may be added.

Thus I have presented a nomenclature and a classification which have cytologic, biologic, linguistic and clinical simplicity and are applicable to all neoplasms in all vertebrate organisms. No new language has been in-

* See footnotes on p. 266.

(Continued on page 273)

Supradiaphragmatic Diverticulum of the Esophagus Treated by Infradiaphragmatic Diverticulogastrostomy*

RAYMOND W. McNEALY, M.D., F.I.C.S.

AND

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ON rare occasions saccular herniations arise from the lower end of the esophagus and come to lie just above the diaphragm. Protrusions of this kind are termed supradiaphragmatic or epiphrenic diverticula. The surgeon may not find these saccular herniations difficult to diagnose, but he will find them very difficult and even hazardous to operate upon. Very few case reports have appeared in the literature on this subject. One author states that in all his experience he saw four such cases but attempted surgery in only one.[2]

It is important to differentiate between a supradiaphragmatic *pulsion* diverticulum and a supradiaphragmatic *traction* diverticulum, since the latter is not usually treated surgically (Figs. 3 and 4). The traction diverticulum is the result of some distortion of the esophagus by the pull of contracting scar tissue in some adjacent cicatrizing process and as a rule is not of any clinical importance. They are usually small in size and irregular in outline (Fig. 4).

We have a twofold purpose in presenting the following rare case. First, we wish to report a supradiaphragmatic diverticulum of the esophagus that was successfully treated

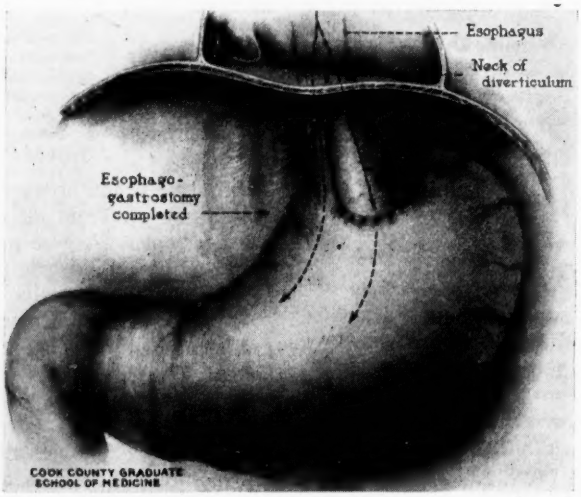

Fig. 1.—The diverticulum is brought through the esophageal hiatus and anastomosed to the anterior wall of the stomach. *Dotted lines,* course of food through original esophageal lumen and accessory pathway through diverticulum into stomach.

* From the Department of Surgery, Cook County Hospital, and the Cook County Graduate School of Medicine.

by an infradiaphragmatic esophagogastrostomy. Secondly, we offer a suggestion for an alternative method in the event the supradiaphragmatic diverticulum cannot be completely brought down from the thorax into the abdominal cavity.

CASE REPORT

M. T., housewife, 63, was admitted to Cook County Hospital on Dec. 12, 1940. She complained of difficulty in swallowing, regurgitation of food and loss of weight. Approximately 15 months ago, she noticed a cough that was particularly aggravated when lying flat. At first it was productive of a small amount of blood, but later it was associated with regurgitation of food taken the night before or at the previous meal. For many years she had the feeling that after rapid eating the food would pause at the level of her xiphoid process. During the past 15 months, all symptoms had increased in severity, associated with loss in weight of 15 lb.

On physical examination she appeared well developed, faily well nourished and weighed 130 lb; nothing of significance was revealed. On x-ray examination a marked dilatation at the lower end of the esophagus was demonstrated. It appeared that one-third of the stomach herniated through the esophageal hiatus of the diaphragm. Even after six hours there was still a considerable amount of retention of barium at the lower end of the esophagus. Laboratory findings were of no significance. A diaphragmatic hernia of the esophageal hiatus type was considered, but a supradiaphragmatic divertieulum of the esophagus could not be entirely ruled out.

On Dec. 28 the patient's left phrenic nerve was crushed as a preliminary step to the final attack on the diverticulum. On Jan 15, 1941, she was operated upon. Under cyclopropane anesthesia a left Kocher (subcostal) incision was made. A diverticulum, 9 em. long was found; it had its origin from the esophagus at a point well above the cardiac orifice of the stomach. The esophagus above the level of the neck of the diverticulum was dilated, but no evidence of tumor formation existed either above or below the origin of the diverticulum (Fig. 3). At operation, the esophageal hiatus was incised lateralward. The esophageal diverticulum was pulled down through the enlarged opening, and an end-to-side anastomosis made between it and the stomach.

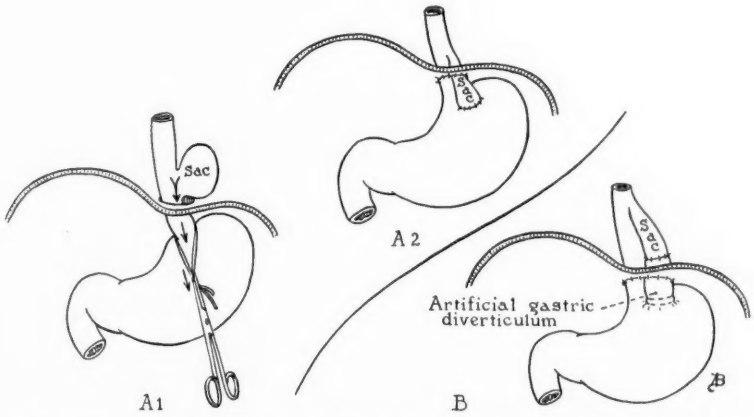

Fig. 2.—*A 1*, original position of sac. *A 2*, sac brought through diaphragm and anastomosed to stomach. *B*, suggested technic for creating gastric diverticulum and anastomosing it to fundus of supradiaphragmatic esophageal diverticulum.

TECHNIC

1. A left subcostal incision was made. It began at the medial border of the right rectus muscle and continued obliquely downward and outward parallel to the costal arch. It terminated at about the left anterior axillary line.

2. A self-retaining retractor was installed and the abdomen explored.

3. The transverse colon and splenic flexure were

packed downward and medialward with warm moist lap pads.

4. The left lobe of the liver was depressed in order to expose and cut the left triangular ligament and the lateral portion of the coronary ligament. The liver was protected with a warm moist lap pad and gently retracted downward and to the right.

5. The esophageal hiatus was now clearly visible and defined.

6. A tape-sling was passed around the esophagus just above the cardia of the stomach.

7. By traction on the tape-sling the diverticulum could be brought through the hiatus of the diaphragm (Fig. 2). No difficulty was experienced in approximating it to the anterior wall of the stomach.

8. The anastomosis was that usually employed in cholecystogastrostomy. Two layers of interrupted silk sutures were employed in closing the anastomosis.

ninth postoperative day and the amount gradually increased.

The patient made an uneventful recovery and left the hospital on the fifteenth day. She reported after a two-month interval for x-ray observation. Her weight had increased, and she was able to eat full regular meals. The x-ray films showed that the food passed through the esophagus and the diverticulum as well. The patient was unconscious of the additional pathway into her stomach and said she never regurgitated her food nor was she in any way bothered by gaseous eructations.

AN ALTERNATIVE METHOD

It occurred to us during the manipulations necessary to bring the diverticulum down through the esophageal hiatus of the diaphragm, that it was a fortunate circumstance that the diverticulum was long enough to permit its attachment to the anterior wall

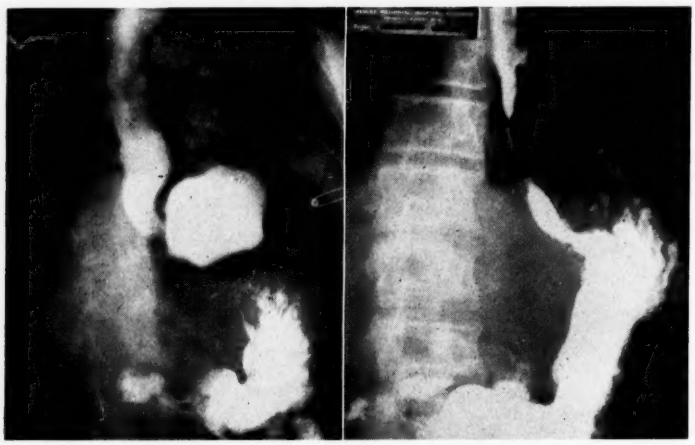

Fig. 3 *(left).*—X-ray showing esophageal diverticulum lying on diaphragm (pulsion type).

Fig. 4 *(right).*—X-ray showing small diverticulum of lower end of esophagus (traction type).

9. The esophageal hiatus, which had been enlarged, was now narrowed by suture until it fitted quite snugly to the esophagus and the displaced diverticulum.

A Levine tube was passed into the stomach immediately after the operation and kept in place for several days. Continuous suction was employed and the patient fed parenterally. Small quantities of liquids were administered by mouth on the

of the cardiac end of the stomach without undue tension. If the diverticulum had been short, placed slightly higher or not easily displaced downward, it might have offered almost insuperable difficulties. Where these conditions are found, it will become necessary to bring a part of the stomach wall up to meet the diverticulum. This could be accom-

plished by drawing out a cone of the anterior wall of the stomach, which would lend itself most readily to the formation of a junction of the stomach with the diverticulum.

The details of the formation of a cone can be found in a report dealing with gastrostomy that appeared in a previous article by one of us.[1] The extra hazard in this substitute method lies in the fact that the line of anastomosis between the gastric cone and the diverticulum would be above the level of the diaphragm in the posterior mediastinum. Leakage along the suture line might be followed by serious infection of the contents of the thoracic cage (Fig. 2-*B*).

SUMMARY

We have presented an unusual diverticulum of the lower portion of the esophagus. It was managed by anastomosing it with the stomach rather than by hazarding the treacherous diverticulectomy, which is the method of choice in those diverticula occurring high in the neck.[3, 4] An alternative method of managing a shorter, higher placed diverticulum by means of creating an elongated cone from the anterior wall of the stomach is also described.

RÉSUMÉ

Les auteurs présentent un diverticule de la partie inférieure de l'oesophage. On fit son anastomose avec l'estomas. On préféra ce procédé à la diverticulectomie qui est le procédé de choix pour les diverticules survenant dans le région supérieure du cou. Les auteurs décrivent une méthode applicable aux diverticules plus haut situés. Cette méthode demande la création d'un cône formé ou dépens de la paroi antérieure de l'estomac.

SOMMARIO

Abbiamo presentato un raro diverticulum della porzione bassa dell' esofago. Tu trattato unendolo con lo stomaco invece di azzardare la pericolosa diverticulectomi, che e il metodo di scelta in quei diverticula che occorrono alti nel collo. Viene pure descritto un metodo alternativo di maneggiare un piu corto, piu alto diverticulum producendo un cono allungato della parete anteriore dello stomaco.

SUMARIO

Hemos presentado un divertículum poco común de la parte más baja del esófago. Fué tratado como anastomosis en relación con el estómago, mejor que arriesgando la traicionera diverticulectomía, que es el método de preferencia en aquéllas divertículas que se producen en la parte alta del cuello. También se describe un método alternativo de tratar un divertículum más corto y emplazado a mayor altura, por el procedimiento de crear un cono alargado desde la pared anterior del estómago.

Свод.

Доложен редкий случай дивертикула нижней части пищевода. Вместо этого, чтобы рисковать опасную дивертикулэктомию, был сделан анастамоз с желудком. Дивертикулэктомия предпочинается при высокой шейной локализации. Также описана хирургическая альтернатива при коротких, высоких дивертикулах, состоящая из создания удлиненного конуса из передней стенки желудка.

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A Simple Operative Procedure for the Relief of Anginal Pain—New Technic*

R. M. KLEMME, M.D., F.I.C.S.†
ST. LOUIS, MISSOURI

PAIN of cardiac origin has been relieved by surgical procedures which have involved extensive interruption of preganglionic or postganglionic nerve fibers. This has been accomplished either by section of the white communicating rami of the upper thoracic spinal areas, or by removal of the inferior cervical and upper thoracic sympathetic trunk. Injection of this portion of the sympathetic trunk with alcohol also is an accepted method.

The associated undesirable effects of interrupting the pathways of sympathetic effector impulses to the head and upper extremity led us (January, 1946) to determine the anatomic sympathetic influence on the heart and coronary vessels.

In this experimental work carried out on dogs, we demonstrated that the second, third, fourth and fifth sympathetic ganglions were the anatomic basis for the alleviation of pain in angina pectoris. As a result of this work, a new scientific surgical treatment of angina pectoris based on anatomic data was evolved. The surgical removal of the second, third, fourth and fifth thoracic sympathetic ganglions on the affected side only, should alleviate anginal pain and should reduce the coronary vasospasm. This surgical procedure does not completely interrupt the pathways of sympathetic affector impulses to the head and upper extremity. The first thoracic segment conveys fibers to them and remains intact, and does not convey cardiac afferent or efferent fibers.

CASE REPORT

T. H., a male of 35, was admitted to the Clinic on Nov. 6, 1945, because of recurrent paroxysmal substernal chest pain radiating to both arms at times, but most of the time to the ulnar side of his left arm. These episodes started in 1941 and were of varying intensity. The first seizure occurred while playing golf and was associated with severe shock, sweating and fear of death. This attack subsided spontaneously. In 1943, while employed as brakeman, he had several attacks of retrosternal pain but none of serious moment. These were accompanied by a sense of constriction in his chest and relief in three to four minutes. At times the ulnar side of his left arm would become numb and cold. Since 1941, he has used amyl nitrite perles for relief of pain, prescribed by a physician who made the diagnosis of "spasmodic heart."

It is significant to note that this patient had played football in high school, and had been a professional boxer until he was forced to stop in the seventh round of a fight because of retrosternal pain.

In 1941, 1943 and 1944 his serologic tests for syphilis had been reported as negative. In 1945, he had a chancre and was treated at a United States public health medical center for syphilis. The diagnosis was based both on the primary lesion and the dark field examination. He received 1,200,000 units of penicillin and 300 mgm. of mapharsen from Aug. 20 to Aug. 29, 1945. Repeated Kahn and Kolmer tests have been negative on his blood and spinal fluid since that time.

Subsequent to the initial physical examination, the patient was seized with retrosternal pain. He became covered with cold sweat and was relieved by nitroglycerin. Hospitalization was recommended.

On admission he was neither dyspneic nor cyanotic; however, he expressed a preference to be propped up in bed. Leukocyte count was 11,000 on admission, rising to 14,450 within the first week. Erythrocyte sedimentation rate rose to 47 and remained elevated for four weeks. There was a shift to the left in the Schilling count. Blood sugar, nonprotein nitrogen, sodium, postassium, diastase and serologic tests were within normal limits. Blood cholesterol was 266 mgm. per cent. X-rays of the chest revealed nothing abnormal.

* Read at the Eleventh National Assembly, U. S. Chapter, International College of Surgeons, Detroit, Michigan, Oct. 22, 1946.

Special procedures were carried out to demonstrate esophageal hiatus herniation without success.

The cardiology laboratory reported serial electrocardiograms. On June 15, 1945, an electrocardiogram showed T_1 and T_2 upright, T_3 inverted and within normal limits. On Nov. 6, there was in inversion of the T wave in lead II, III and IV and a small Q wave in II and III. On Nov. 27, T_1 was diphasic and T_3 was inverted. On Dec. 10, T_1 was iso-electric, T_2 and T_3 were inverted and T_4 was upright.

On Dec. 31, a left thoracic sympathectomy was done, at which time the second, third, fourth and fifth sympathetic ganglions were removed. Immediately following the operation, T_1 was iso-electric and T_2 and T_3 were inverted On Jan. 2, 1946, T_1 was slightly upright, T_2 diphasic, T_3 inverted and Q_2 and Q_3 were present. The postoperative course was uneventful except for pain along the second, third and fourth intercostal spaces, which gradually diminished.

On Jan. 10, he was discharged from the hospital, and on Mar. 4 he returned to work. He is now comfortable and able to carry on without restraint or limitation of activity.

SUMMARY

The author reports a case which shows that the surgical removal of the second, third, fourth and fifth thoracic sympathetic ganglions on the affected side alleviates anginal pain and reduces coronary vasospasm.

SOMMAIRE

L'auteur rapporte un cas qui demontre que l'ablation du second, du troisième, du quatrième et du cinquième ganglions sympathiques du côté atteint soulage la douleur anginale et deminue le vasospasme coronaire.

SOMMARIO

L'autore riferisce un caso il quale mostra che la rimozione chirurgica del secondo, terzo, quarto e quinto ganglio simpatico toracico del lato affetto allevia il dolore anginale e riduce il vasospasimo coronario.

SUMARIO

El autor informa sobre un caso que prueba que la remoción quirúrgica del segundo, tercer, cuarto y quinto ganglios simpáticos torácicos en el lado afectado, alivia el sufrimiento del dolor anginal y reduce el vasospásmico coronario.

Свод

Автор докладывает случай, показывающий, что хирургическое удаление второго, третьего, четвертого и пятого грудных симпатических узлов на пораженной стороне облегчает жабную боль и уменьшает венечную вазоспазму.

INTERNATIONAL NOMENCLATURE

(Continued from page 267)

vented; all medically educated people should readily understand the roots, prefixes and suffixes because these are already well known in our universally accepted basic Latin and Greek nomenclatures of medicine and related biologic sciences throughout the civilized world.

CLINICAL INTEREST

Our real interest as physicians and surgeons should be: (1) the determination (if possible) of the anatomic location of the abnormal condition, and (2) whether or not the lesion should be and can be removed without killing the patient immediately or physically and psychically incapacitating him for the remaining years of life.

If we pride ourselves in a belief in our gambling prognostic ability, then we may attempt to decide whether a condition is a benign or a malignant neoplasm. Whichever it is, it would still be wise to remove all of the mass or masses and to be a little careful in prognosticating the immediate and ultimate outcome following either surgical or radiologic removal. In cases in which the prognosis appears to be very favorable, the patients sometimes die of pulmonary emboli or infections; in some cases even pneumonia develops and coronary cardiac failure may occur in others. The best prognostic rule in practice is a favorable or hopeful prognosis to the patient and a guarded one to relatives and friends.

Massive Bone Defects in Compound Wounds*

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A SYMPOSIUM on the bridging of bone defects in compound wounds was presented at the annual meeting of the American Orthopedic Association at Hot Springs, Virginia, on June 2, 1944, by J. B. Brown and J. F. Mech (Medical Corps, United States Army), A. G. Davis and C. R. Murray and myself. It is the purpose of this paper to emphasize the fundamentals required in the bridging of bone defects as brought out by this symposium and to stress further the actual technic of bone grafting.

SUMMARY OF SYMPOSIUM

Three principal problems confront the surgeon as a preliminary to bone grafting: (1) elimination of infection, local and systemic; (2) restoration of normal physiology, general and local, and (3) removal of skin and scar defects in the preparation of a suitable bed for the graft.

1. Infection.—Penicillin has been found to be the most effective agent in controlling wound infections associated with compound fractures (dosage, 200,000 units per day, given in 25,000 unit doses every three hours). Its successful use is dependent on adequacy of the surgical intervention. Mech [1] has outlined three periods in which it should be employed: (1) immediately before, during and after primary sequestrectomy and drainage; (2) before, during and after repair of skin and scar defects (usually two to three weeks after healing of the wound left by the primary operation, sequestrectomy and drainage); (3) before, during and after the actual bone grafting.

Sulfonamide compounds have found a useful place in the treatment of such wounds, particularly in the fresh wounds of battle casualties. However, penicillin has been found to be a more potent antibacterial agent. It is active against almost all the pathogenic organisms in traumatic wounds and is almost completely nontoxic. There are no counterindications to its use, but it should be realized that it is active chiefly against gram-positive organisms and gram-negative cocci (Mech).

2. Restoration of Normal Physiology.—General: In cases of long-existing suppurative wounds, the patient shows the effects of chronic sepsis. Loss of weight, loss of appetite, low intake of food, anemia, low blood pressure, general debility, negative nitrogen balance (hypoproteinemia), decreased blood volume and increased interstitial fluid volume may be present. The susceptibility of such a patient to shock is obvious. Mech has stressed particularly the deficiency in blood volume, hemoglobin and blood and tissue proteins. Hypoproteinemia and lowered protein reserve have been shown to have a deleterious effect on the healing of wounds (Radvin, quoted from Mech). Mech offered the following suggestions as a means of combatting the major problems and their effects. 1. Infection should be eliminated at the earliest possible moment, as this is a causative agent. 2. Blood volume and hemoglobin should be restored by transfusions of plasma and of whole blood. 3. There must be a restoration of positive nitrogen balance, by the measures just mentioned plus an adequate diet. The latter consists of 2,500–3,000 calories per day. The protein intake is maintained at 150 Gm. or more per day.*

Local: According to Murray,[2] five principal substances are concerned in the formation of adult bone: (1) undifferentiated connective tissue; (2) utilizable calcium in adequate local concentration; (3) utilizable phosphate in

* Presented at the Ninth Annual Assembly of the United States Chapter of the International College of Surgeons, Philadelphia, Pennsylvania, October 1944.

* Appetite is usually increased during the administration of penicillin, and the above diet is well tolerated in most cases.

Fig. 1*A*.—Ossification of portion of tibial periosteum (reproduced from *Ollier*, opposite p. 72).

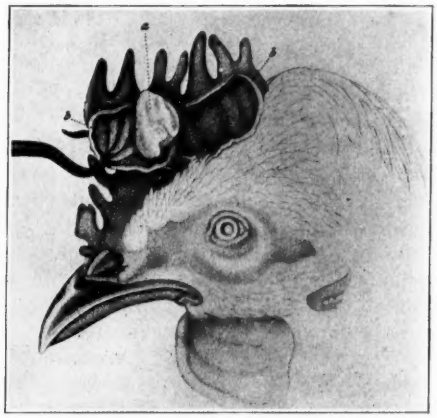

Fig. 1*B*.—Heterotopic bone obtained by transplanting portion of periosteum taken from tibia of chicken (reproduced from *Ollier*, opposite p. 80).

Fig. 2*A (left)*.—Left radius and ulna not operated on.

Fig. 2*B (right)*.—Right radius and ulna. Radius operated on 12 weeks previously. Entire periosteal covering removed at that time and 1 in. section of bone removed. Gap resulting from removal was packed with small fragments of bone removed from another dog. Note complete restoration of continuity, but overgrowth of shaft, especially marked at site of section. (Reproduced from *Macewen*, p. 77.)

adequate concentration; (4) a ferment phosphatase; (5) local tissue fluid with a pH in the range in which the phosphatase is active (optimum pH well to the alkaline side, 8.0; inactive below 6.0 on the acid side). The amount of undifferentiated connective tissue to be ossified is influenced by the serum protein levels, vitamin status, blood volume and hemoglobin and particularly by the local circulatory status. The source of calcium and phosphate is initially in the bone itself, but ultimately it is a general metabolic mechanism and obviously is seriously affected by the local circulatory status. The creation of a suitable pH level in local tissue depends on the status of the general metabolic mechanism and especially on the relative efficiency of available local circulation (lymphatic tissue spaces and capillaries) in dispersing the products of cell metabolism. Inflammatory processes due to mechanical (continual movement at the fracture site), chemical (infection or foreign bodies), or thermal (due to excessive diathermy) factors, muscle spasm which hampers minute circulation, mechanical interference with circulation by compression bandages, deficiency in the capillary bed, tension within tissues and massive or continued death of tissues further the accumulation of acid products (unsuitable pH for phosphatase activity). Murray thus has pointed out the fundamentals of bone repair and outlined

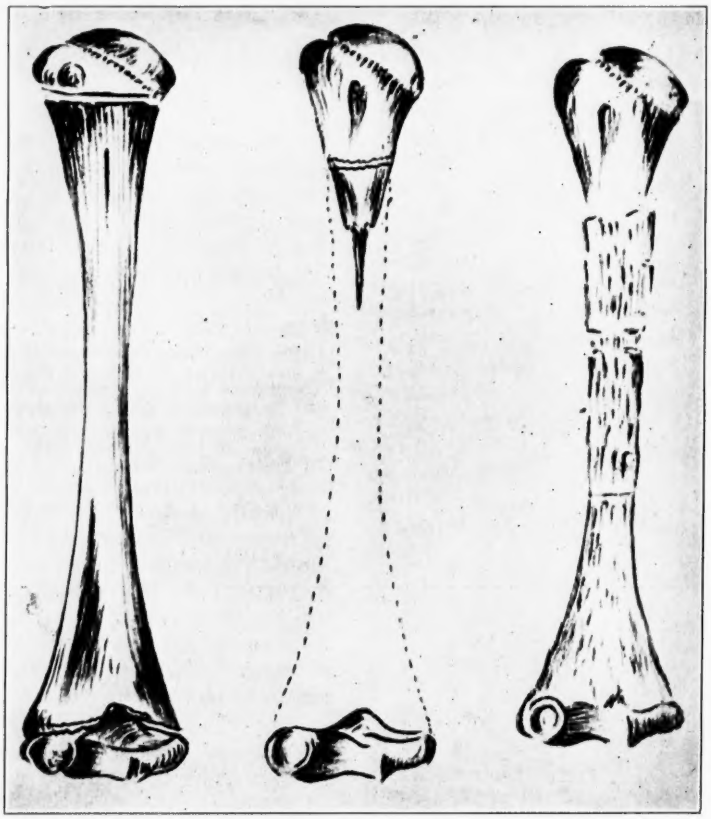

Fig. 3*A (left).*—Diaphysis, which was necrosed and removed.
Fig. 3*B (center).*—Result 15 months later, showing absence of shaft.
Fig. 3*C (right).*—Result of completion of grafts. (Reproduced from *Macewen*, p. 177.)

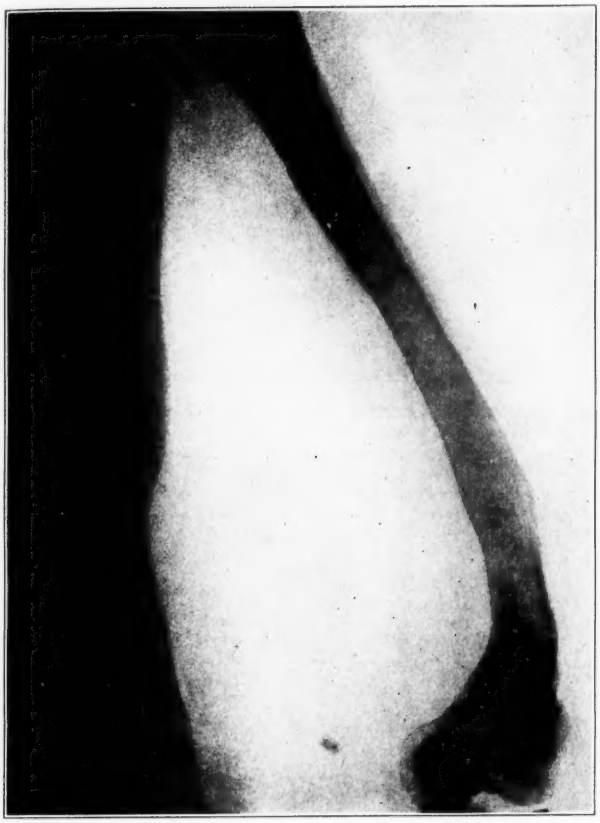

Fig. 3*D*.—Same case as preceding, 30 years later (reproduced from *Macewen*, p. 189).

Fig. 4*A*.—Malunion of radius and large gap in ulna. (Reproduced from *Jones*, p. 178, by permission of the *Oxford University Press*.)

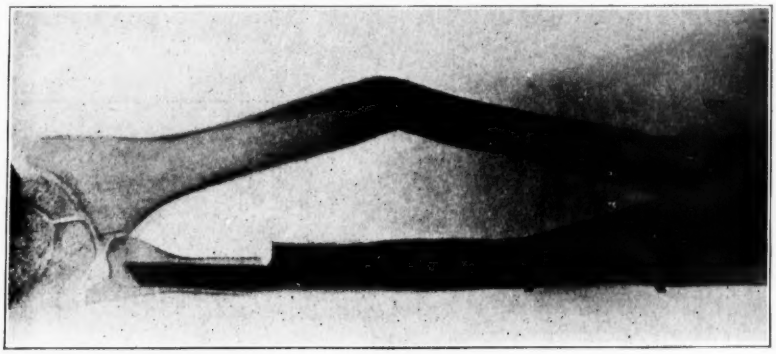

Fig. 4*B*.—Same case as preceding, after operation. As radius was displaced away from ulna, it was left alone. Ulna was united by long tibial graft pegged into lower fragment, and united to upper by two split pins.

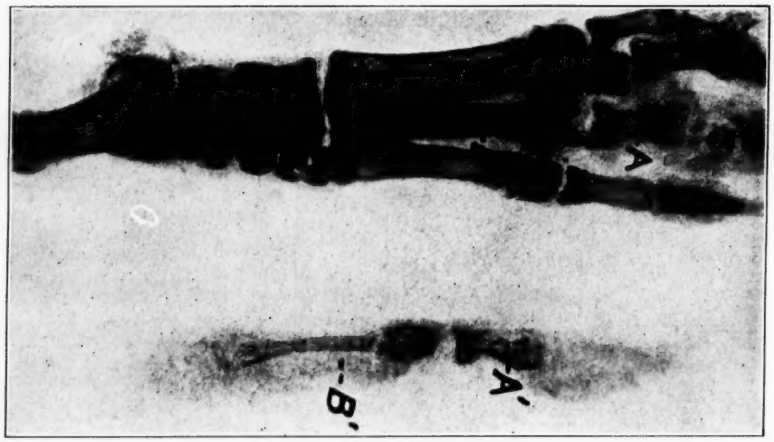

Fig. 5*A (top).*—Haas' experiment beautifully illustrating Wolff's law. Phalanx and metacarpal reimplanted at original site.

Fig. 5*B (bottom).*—Same case; phalanx and metacarpal transplanted into muscles of back, 55 days after transplant. Reimplanted bones subjected to normal stimulation of function show less evidence of degeneration than transplanted bones removed from normal stimulus. (Reproduced from *Haas,* p. 427, by permission of the *Archives of Surgery.*)

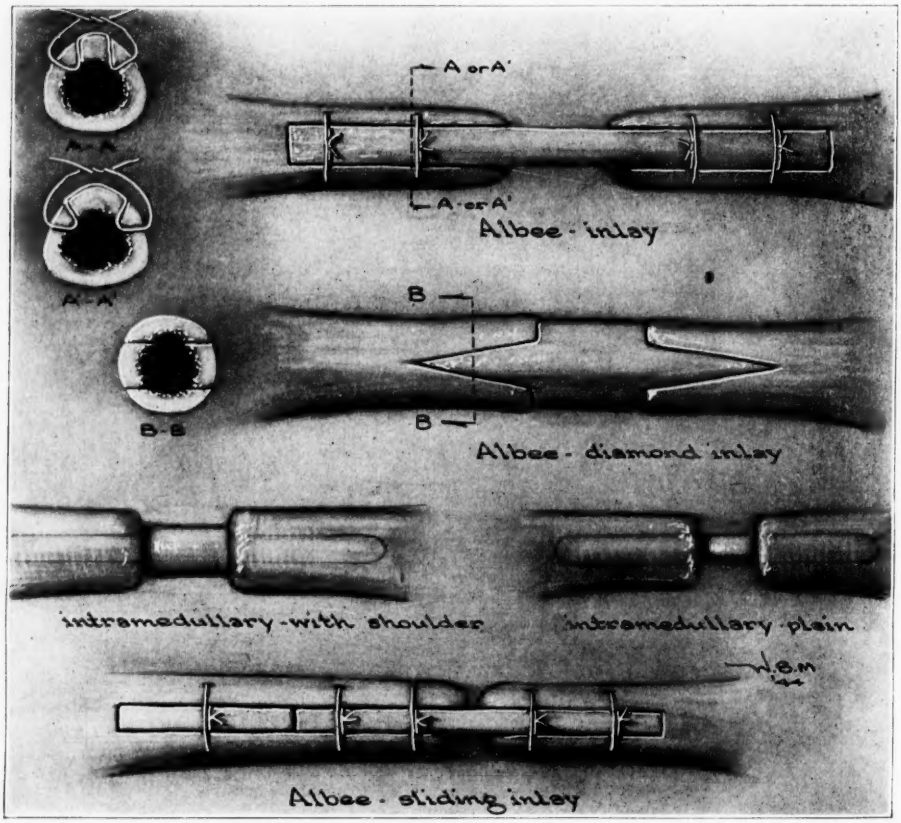

Fig. 6.

clearly the indications for improvement of the local physiology. Briefly they are as follows: (1) elimination of infection as quickly as possible; (2) improvement in efficiency of local minute circulation through attention directed to muscle tone by exercises and active use, by physical therapeutic substitutes for these, by pressure dressings or supports (to prevent edema) and by positional (Buerger exercise) and gravity aid; (3) use of a brace to allow active exercises some weeks or months preliminary to the grafting procedure; (4) removal of formed connective tissue scar from between and about the bone fragments to allow replacement by new vascular undifferentiated tissue (includes drilling of sclerotic dense bone); (5) repair of skin defects by plastice procedures for the purpose of augmenting local circulation and providing a source for the growth of undifferentiated tissue.

3. Removal of Skin and Scar Defects in Preparation of a Suitable Bed for Grafting.—Brown[3] stressed the following factors in planning satisfactory wound closure in preparation for subsequent bone: (1) the preparation of the deep tissue to carry a blood supply adequate for surface repairs through resection of surface and deep scar; (2) the design of surface closure through the use of local flaps,

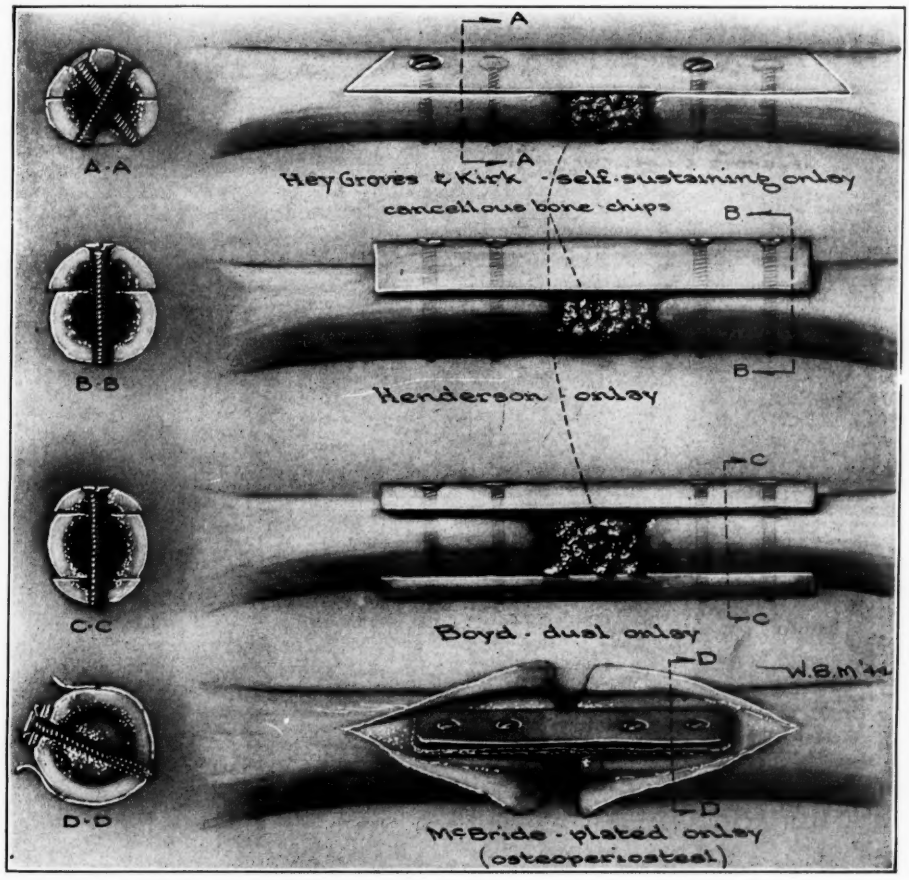

Fig. 7.

skin grafts or direct or delayed pedicle flaps. All the sensory nerve supply must be preserved, especially in the feet and hands. The donor site must be selected so that added crippling will be avoided. The type of graft to be employed depends largely on the type of defect and the purpose of the replacement of the scar defect. The pedicle flap would seem to be the graft of choice in scar resections preliminary to the reconstruction of massive bone defects.

Comment.—It is readily seen from the foregoing summary that repair of massive bone defects requires that the most drastic attention be paid to infection, local and general physiology and repair of skin defects. According to Davis [4] this new orientation must have at least a trial at salvage in healed compound, infected wounds, rather than hopeless sacrifice of the part. A surgeon can be justly criticized if at least one consistent attempt under the present accepted minimal conditions of procedure is not made before amputation, particularly in cases of injury of the upper extremity and in cases in which but one lower extremity remains.

BONE GRAFTING

If the fundamentals outlined heretofore have been strictly adhered to, the compound fracture has been converted into a simple fracture primarily and the surgeon is now concerned simply with the technic of bone grafting. The groundwork for bone grafting has been laid by contributors of the past several centuries, including Havers, Volkmann, Belchier, Duhamel, John Hunter, Ollier, Wolff, Rugh, Barth, Axhausen and Macewen. The importance of the technic employed in bone grafting reached its height perhaps in

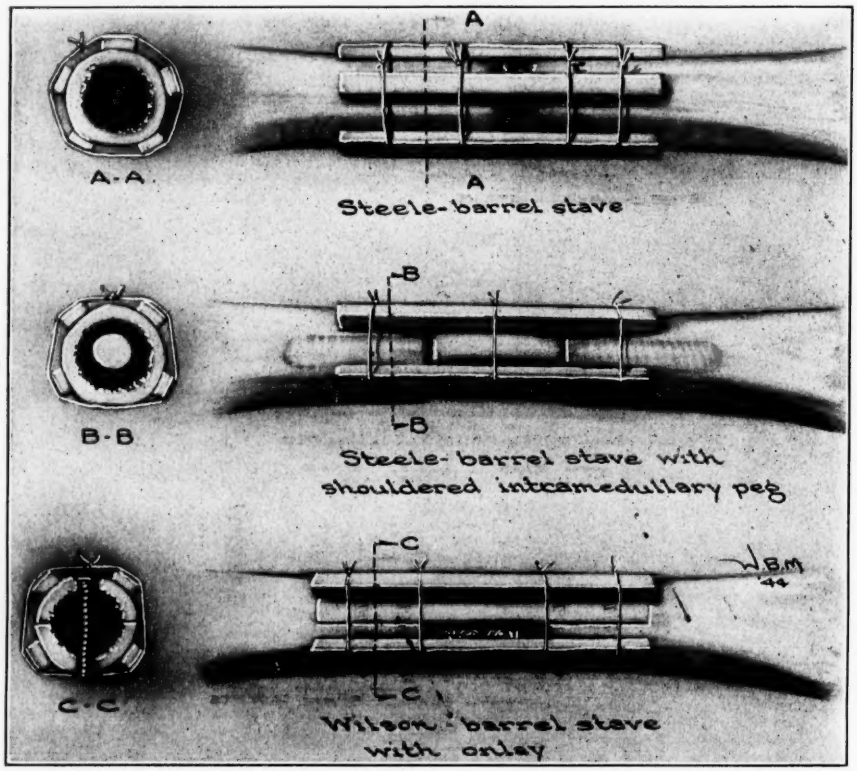

Fig. 8.

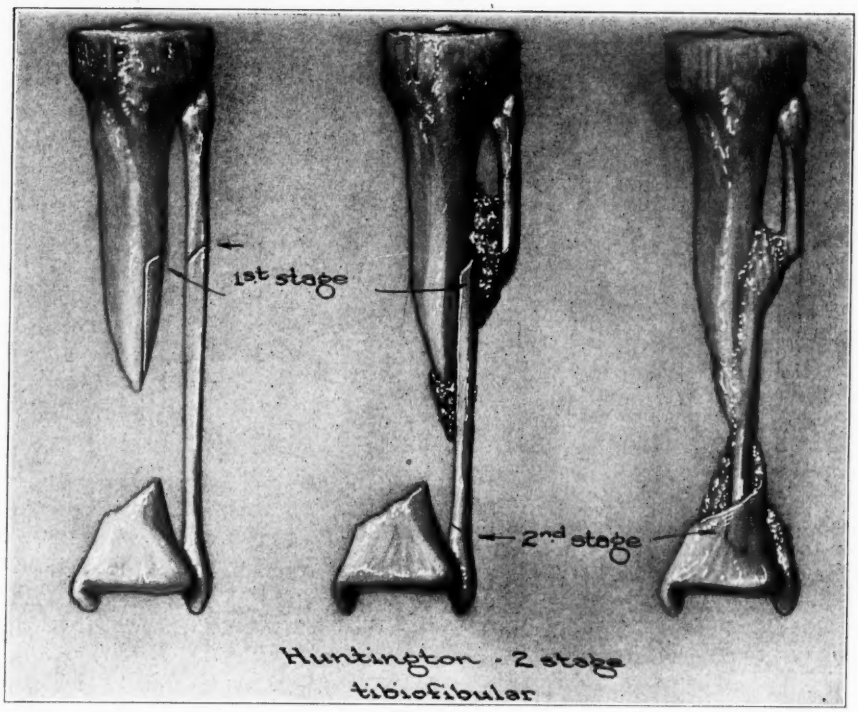
1st stage
2nd stage
Huntington - 2 stage
tibiofibular

Fig. 9.

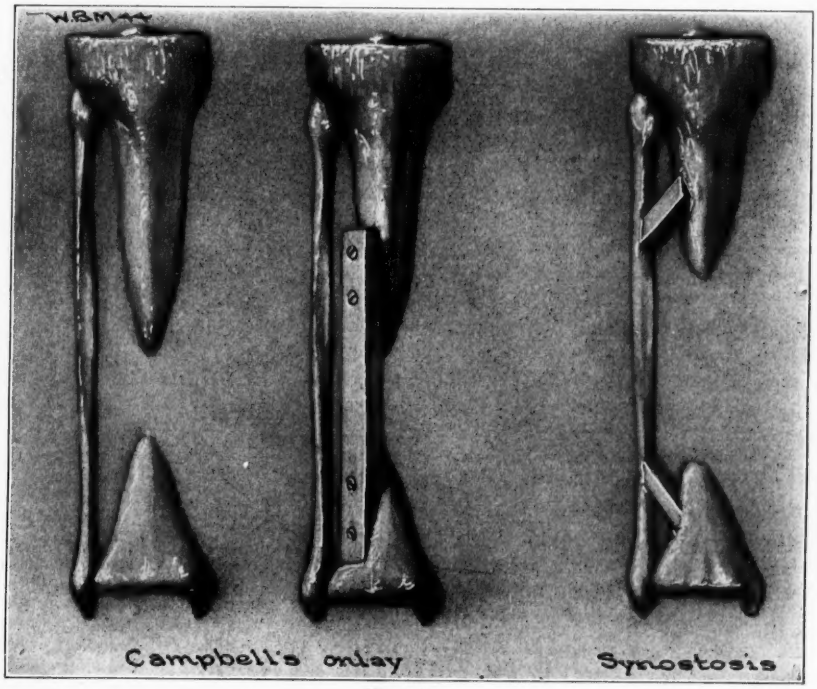
W.B.M.
Campbell's onlay
Synostosis

Fig. 10.

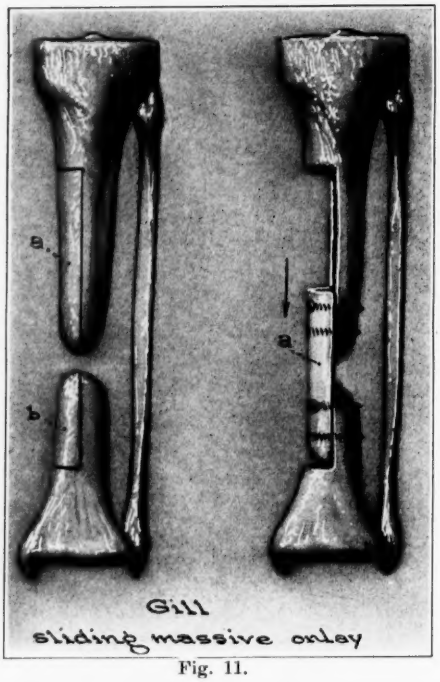

Fig. 11.

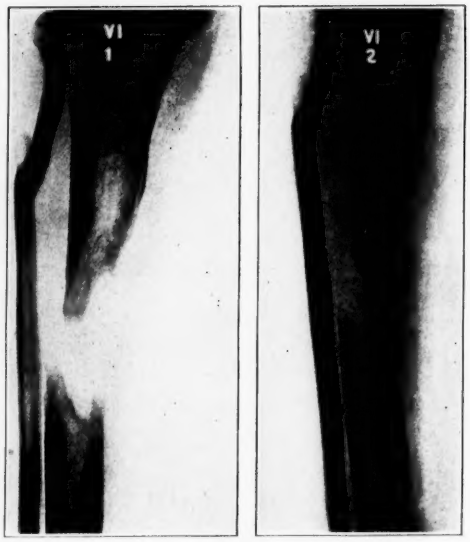

Fig. 13*A* *(left)*.—Fig. 13*B* *(right)*.—Roentgenograms showing loss of substance and bone atrophy and result three and one half months after bone grafting. (Reproduced from *Kirk*, p. 771, *Journal of Bone and Joint Surgery*.)

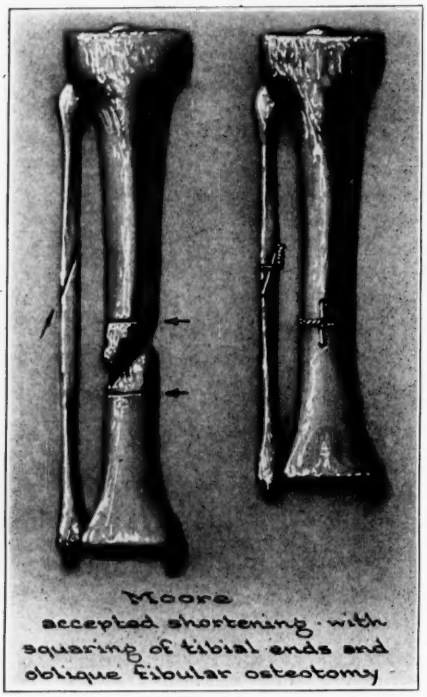

Fig. 12.

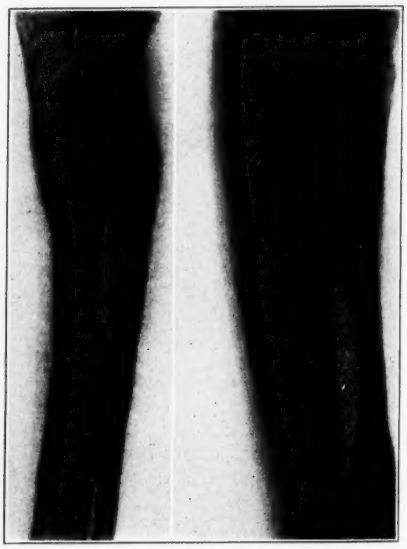

Fig. 13*C*.—Roentgenograms showing excellent bony union 20 months after operation. (Reproduced from *Kirk*, p. 772, *Journal of Bone and Joint Surgery*.)

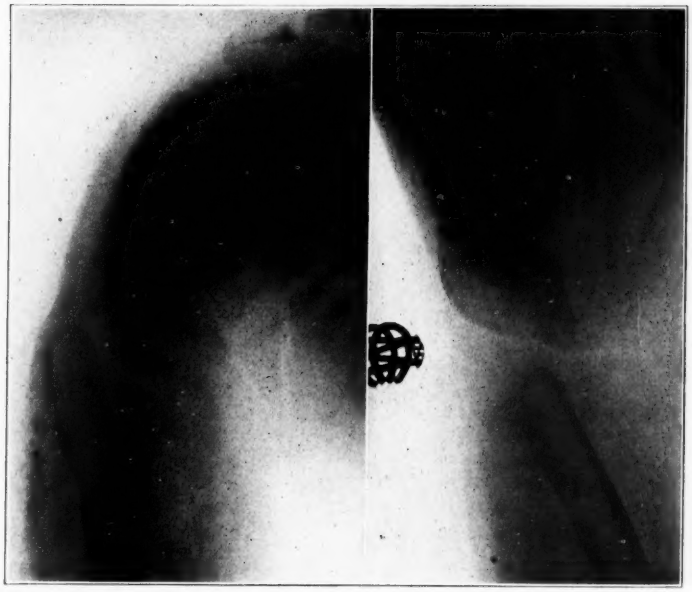

Fig. 14*A*.—Large defect in upper third of humerus which followed compound fracture with sequestration. (Reproduced from *Boyd*, p. 538, *Journal of Bone and Joint Surgery*.)

Fig. 14*B*.—Same case as preceding, appearance 6 weeks after application of dual bone grafts. Illustration of clamplike action of dual graft and its holding power on osteoporotic fragment.

Fig. 14*C*.—Same case as preceding, appearance 17 months after operation. Solid bony union has occurred despite postoperative infection. (Reproduced from *Boyd*, p. 539, *Journal of Bone and Joint Surgery*.)

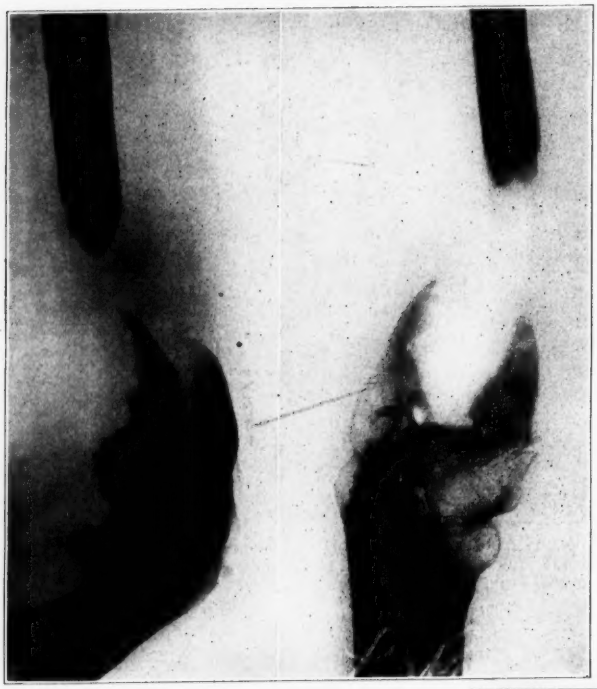

Fig. 15*A*.—Nonunion of humerus of 11 months' duration, following compound comminuted fracture with infection and loss of bone substance. (Reproduced from *Boyd*, p. 548, *Journal of Bone and Joint Surgery*.)

Fig. 15*B*.—Same case as preceding. Solid bony union one year and eight months following onlay of fibular graft in which vitallium screws were used. (Reproduced from *Boyd*, p. 548, *Journal of Bone and Joint Surgery*.)

Fig. 16*A (left).*—Fig. 16*B (right).*—Old gunshot wound with loss of substance and marked bone atrophy. Massive-type tibial graft was inserted into proximal fragment after removal of terminal thin cortical shell. Periosteum was first removed from that part of graft so introduced. Lower end of graft was fitted into slot and pocket chiseled into distal fragment. Graft thus became self-retaining. Body plaster cast was applied several days before operation. (Reproduced from *Kirk*, p. 623, *Journal of Bone and Joint Surgery.*)

1911, with Albee's contribution of the motor saw. Albee's experience in tree grafting, in which one considers the fit of the scion or graft to the host (homologous layers) and observes the necessity of complete immobilization in a suitable bed, found ready application in the human bone graft. Brown, Haas, Master, Phemister, MacWilliams, Dobrowolskaja and others have added much to the knowledge of the behavior of bone grafts. Osteoperiosteal grafts vascularize more readily than pure cortical grafts. Some osteogenesis occurs beneath the periosteum and in endosteal bone, but the bulk of the graft dies and is replaced by entirely new bone. This is essentially the modern opinion. Groves, Jones, Albee and others demonstrated the importance of internal fixation as afforded by massive grafts securely fixed (self-sustaining or fixed by nails and screws, wire loops, etc.). Venable, Stuck, Beach and others demonstrated the harmless effect of inert metals in graft fixation. Albee, Jones, Kirk, Hendernon, Campbell and many others reported large series of bone graft operations for nonunion with rather remarkable success. Kirk was one of the first to report a large series of bone grafts for massive defects in compound wounds. Careful review of the literature and analysis of the results of a questionnaire sent

to the members of the American Orthopedic Association, tempered by personal experience, have led to development of the following outline for successful bone grafting:

1. The autogenous graft is preferred.

2. Massive onlay or massive inlay is used. (Types of grafts illustrated in Figures 1, 2, 3, 4, 5, 6 and 7; graft preferably three times the length of the defect—Kirk.)

3. Internal fixation is by means of vitallium or stainless steel screws or a self-sustaining graft.

4. External fixation is secured by immobilization with plaster of paris, including the joint above and the joint below. The period of primary fixation is three to six months, the actual duration being determined primarily by the progress shown by the x-rays. Demineralization of the graft is dependent on revascularization and may not be complete before three months. Hence three periods are recognized roentgenologically: (1) a period of normal density (apparently increased density due to demineralization of the fracture fragments, roughly four weeks); (2) a period of demineralization (four to eight weeks or longer) and (3) a period of recalcification in the formation of trabecular patterns (six months to one year, sometimes longer).

5. A brace is employed for the protection of the long bone until size and appearance indicate satisfactory function, from six months to a year or longer after the primary immobilization with plaster. The protection of bone grafts in the upper extremities obviously should be modified in view of the non-weight-bearing requirements. The period of primary fixation (plaster) is reduced, and a brace may not be necessary.

6. Physical therapy is given for the purpose of restoring the normal physiology to bone, joint and soft parts, particularly active and natural movements. This is done concurrently with the use of the brace (protective period).

Figures 1, 2, 3, 4, 5, 6 and 7 illustrate the commonly employed types of osteosynthesis. Synostosis and tibiofibular transplant and tibiofibular shortening are optional procedures for repair of massive defects in the tibia and fibula and are not particularly useful in the presence of persistent infection or of irreplaceable scar defects. Figure 8 illustrates the large self-sustaining graft of Kirk; Figures 9, 10 and 11, the dual onlay graft of Boyd; Figure 12, the large delayed onlay graft, wire loop fixation; Figure 13, the delayed inlay graft, self-sustaining; Figure 14, squaring ends of the tibia, oblique osteotomy of the fibula and internal fixation by a wire loop (elderly patient with chronic infection and extensive inoperable scar defect).

In closing, may I quote Clay Ray Murray [2]:

> The surgeon often reports a certain type of graft successful in all of a series of cases, although in some instances the procedure may have had to be repeated two or more times before ultimate success is attained. Such a viewpoint, centering entirely upon the ultimate success of a technical procedure, is not calculated to ensure success beyond the law of chance in any individual procedure. All types of grafts are ultimately successful in at least a large percentage of cases, if not in all, according to the results reported by many of the proponents of the various types. . . . The really vital point is not the number of cases ultimately grafted successfully, but the number of unsuccessful procedures; . . . The answer frequently lies, we may be certain, in unconsidered factors in the individual and in the local conditions, and not in the type of graft used.

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Enterogenous Cysts

With Report of a Case Involving the Transverse Colon

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HISTORY

THE first authentic description of this cyst was made in 1882 by Frankl. He had performed an autopsy on a baby who had died of an intestinal obstruction. A large occlusive type of cyst was found in the terminal ileum. Saintsbury described a case in 1886 and Heuter one in 1896. In 1934, the literature was reviewed by Hughes-Jones, the total number of cases being 55. Of these, 31 occurred in the terminal ileum and most of them were along the mesenteric attachment, and over 60 per cent were in patients under one year of age. Since then, additional cases have been reported from time to time, and while the incidence is decidedly low, the likelihood of encountering the condition is sufficient to warrant a review of the pertinent features of the disease.

GENERAL DESCRIPTION

True enterogenous cysts are nearly always single, unilocular and filled with a mucoid secretion which may be clear, pale, straw-colored, alkaline and has a specific gravity of about 1.015; or they may contain red blood cells, cholesterin crystals and debris. They vary in size from minute cysts to tumor masses measuring 20 cm. in diameter. The walls of the cyst may exhibit a reproduction of all the layers of the bowel. The walls vary considerably in thickness, some of the larger cysts being extremely thin, due chiefly to the intracystic pressure, while some of the smaller cysts show distinct layers. The epithelial lining particularly is subject to great variations. In some, there are tall, columnar, mucus-secreting cells; in others under more pressure the cells are flattened into a thin layer. These variations of the epithelial lining are not entirly due to varying pressure but sometimes to inflammatory reactions and differentiation in heteromorphosis of the epithelium.

The cysts may be subserous, intramuscular or submucous. They have, for the most part, no communication with the lumen of the bowel and may protrude from any segment of the intestinal periphery, antimesenteric, laterally or between the mesenteric folds. They may occur anywhere in the gastro-intestinal tract and occasionally are found at a considerable distance from the bowel, attached to some abdominal or thoracic structure or to connective tissue. One case has been reported attached to the dorsal surface of the os sacrum. However, it is the intraperitoneal enterocystomas that are of particular interest.

In Hughes-Jones' analysis, 85 per cent occurred in the ileocecal region and in that region were more apt to be submucosal. The mesenteric type was more common in the upper part of the small bowel.

ETIOLOGY

This is difficult to explain in all cases. It is the belief of Lewis and Thyng that most enterogenous cysts arise from intestinal diverticula which have become sequestrated during embryologic development. These investigators have in one instance been able to trace the formation of a cyst from such an epithelial downgrowth. On the other hand, some cysts appear to be the result of incomplete obliteration of the vitelline duct and resemble a Meckel's diverticulum in this respect. The omphalomesenteric duct has its origin about 80 to 100 cm. orally from the ileocecal junction and, as a result, enterogenous cysts are more common in the ileum. However, studies by Lamb have shown that the duct may originate from the duodenum, which helps to ex-

plain the finding of the cysts anywhere along the course of the small bowel, but does not explain the occurrence of multiple cysts, nor of those occurring in the colon or elsewhere. Some cysts have their origin in segments which later become esophagus, stomach, duodenum, jejunum, ileum, sigmoid and rectum. In 1943, Hullsick described four cases of enterogenous cysts of the rectum. These were readily palpable by digital examination and were removed surgically from within the rectum.

In some cases there may be an inherited familial defect pertaining to the development of the intestinal tract. In a report of one case, the authors have obtained a family history as follows: Of 13 children borne by the patient's grandmother, 10 had died of "intestinal trouble" before the age of six months.

AGE INCIDENCE

Over 60 per cent are encountered in patients in the first year of life. In analyzing 33 cases from the literature in 1939, Pachman found that the ages of those patients ranged from new-born to 62 years. The age is dependent largely upon the region involved, the size of the tumor and any complications producing bowel disturbances which demand investigation. Duodenal cysts are found early —up to four months; while those occurring in the ileocecal region (except for the last four inches) are found between the third and fourteenth year. A certain number of enterogenous cysts have been found upon autopsy without having produced any symptoms during a lifetime.

SEX INCIDENCE

It would appear from the analysis of several investigators that the condition is found about 50 per cent more frequently in the female than in the male.

SYMPTOMATOLOGY AND DIFFERENTIAL DIAGNOSIS

Symptoms vary with the location of the cysts. There may be a past history of vague gastro-intestinal complaints. The chief complaint may be an asymptomatic tumor mass. Duodenal cysts may simulate pyloric stenosis. Ileus and complete obstruction may occur by obliteration of the lumen by volvulus, invagination, or strangulation of an internal hernia through an opening in the mesentery, with the usual symptoms. Ascites was the main symptom in one case. Pain, in the absence of torsion as reported by Millar and Robertson, has been explained on the basis of colicky contractions of the hypertrophic musculature of the cyst wall following hypersecretion and increased pressure within the cyst, incidental to eating.

Intussusception, appendicitis or tuberculous peritonitis may be suspected. A roentgenologic examination may or may not aid in diagnosis. A choledochus cyst was the diagnosis in a case reported by Gardner and Hart. In no reported case have I been able to find the diagnosis made preoperatively, though in one case it was considered in the differential diagnosis.

Pathologically, enterogenous cysts must be differentiated from chylous cysts, traumatic cysts, dermoid cysts and so-called gas cysts, known also as pseudocysts and emphysema intestinorum. Chylous cysts are usually small, multiple, and contain the characteristic milky fluid. Microscopically, they exhibit an endothelial lining. Traumatic cysts contain blood and possess a fibrous lining. Dermoids have their usual characteristics of epidermis, sebaceous material and hair.

Gas cysts vary from minute bubbles to large cystlike collections and sometimes appear in clusters, like multiple attached soap bubbles. These are probably the result of mechanical injury to the bowel in the presence of gas-producing organisms, or the result of pathologic changes in the bowel, such as ulcer, tuberculosis or parasites.

TREATMENT

Considering that most of these cases occur in the very young and are frequently obstructive in nature, it is of paramount importance to secure adequate preoperative and postoperative care. Administration of fluids, attention to salt and protein needs, perhaps small transfusions of blood and the immediate proximal decompression in the obstructed cases are important measures.

Enucleation is possible in those cysts located within the mesentery and is, of course, desir-

able and offers little risk. However, this can rarely be done due to the intimate attachment to the bowel wall. Evacuation has little or nothing to commend it. Marsupialization has been used successfully, but in most cases resection is indicated. In the analysis of Hughes-Jones, the mortality of resected cases was 82 per cent. This brings up the question of resection and primary anastomosis versus exteriorization with a later reestablishment of continuity of the bowel. It is apparent that in the presence of obstruction primary anastomosis should not be done. In a report of a case by Dockerty, Kennedy and Waugh of Mayo Clinic of an occlusive type of cyst in the terminal ileum in an eight months old female, resection, exteriorization and later closure were done. These authors reemphasize the danger of resection and primary anastomosis.

However, in the absence of obstruction, primary anastomosis may prove to be desirable. It was the method used in my case.

CASE REPORT

A three year old boy was first seen on Jan. 26, 1945, complaining of cramplike pains in the abdomen. The onset was the day previous about 4:00 P.M., when he complained of cramps in the lower left abdomen and around the navel. Later, the distress moved to the right side of the abdomen. There were no vomiting, constipation or diarrhea.

Past history revealed that he had been born in precipitate labor, three weeks prematurely. The only diseases suffered were whooping cough and chicken pox. His bowel habits had been entirely regular.

Family history disclosed two sisters as living and well. One brother, who from birth had suffered alternating constipation and diarrhea, had died following a severe diarrhea at the age of 14 months. Diagnosis was "acute gastro-enteritis" and was confirmed by autopsy.

Examination revealed a thin, somewhat pale boy exhibiting abdominal discomfort. The whole abdomen appeared to be moderately distended. There were no palpable masses, but there were definite right lower quadrant tenderness and some muscle spasm. The white blood count was 16,900, polymorphonuclears 80 per cent with 28 per cent young forms.

A diagnosis of acute appendicitis was made and surgery instituted. Upon opening the abdomen through a right gridiron incision, a bluish walled cyst presented itself. The incision was enlarged and the cystic mass followed over to the upper left quadrant. It was delivered and found to be a large cyst arising from the wall of an elongated dependent transverse colon. The length of the involved bowel was about 8 cm., and there was an intimate attachment to the bowel wall (Fig. 1). The lumen was not encroached upon, and there was no evidence of obstruction. A resection was performed with a primary anastomosis by the "relative aseptic technic", using the ordinary Kocher forceps in absence of a sterilized Rankin or Partipillo clamp. The appendix was inflamed and distended. It was removed and 2 Gm. sulfanilamide powder was placed intraperitoneally. Wangensteen suction was instituted. The postoperative course was moderately stormy with considerable distension until Jan. 31. On Jan. 29, an oil retention enema was given followed by a cleansing enema, and the intestinal intubation was discontinued on Jan. 31, when soft food was allowed. Progress continued, and the patient was discharged in good condition on Feb. 9.

Fig. 1.—Enterogenous cyst removed from the transverse colon of a three year old child.

PATHOLOGIC DESCRIPTION

Gross:—Segment of bowel 15.0 x 2.5 cm. in diameter. On the serosal surface is a wide band 0.5 cm. wide. The wall of the bowel is edematous, the mucosa is flat, adjacent is a large nodular cyst 25.0 x 12.0 x 8.0 cm. Its external surface is congested. Its wall is very thin, the cyst is filled with serous material.

Microscopic:—Sections of the wall of the cyst reveal mostly a fibrous structure, but some smooth muscle is found closely resembling muscularis of

the bowel. There is no mucosa. In the cyst wall and in the lumen are found numerous lymphocytes and polymorphonuclear leucocytes.

SUMMARY

A brief review of the literature on the subject of enterogenous cysts has been presented, followed by the description of a case encountered by the author, involving the transverse large bowel in a three year old boy.

SOMMAIRE

Une revue brève de la littérature du sujet "Kystes entérogènes" est présentée, suivie d'une description détaillée d'un cas saigné par l'auteur. Le kyste entérogène intérresait le colon transverse chez un garçon de trois ans.

SOMMARIO

E' stata presentata una breve rivista della letteratura sul soggetto del chisto enterogenoso, suguita dalda descrizione di un caso che l' autore ha brattato riguardante il grande intestino trasversale in un bambino di tre anni.

SUMARIO

Se ha presentado un breve revista de la literatura sobre el tema de un quiste enterogenus, seguido de la descripción de un caso encontrado por el autor, que se refiere al intestino grueso transversal de un niño de tres años de edad.

Свод.

После краткого обзора научной литературы об энтерогенных кистах дано описание случая кисты поперечной большой кишки у трехлетнего мальчика.

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Adamantinoma of the Tibia*

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AND

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IN reporting an additional case of a bone tumor always considered rare, the clinician has two favorable opportunities. He is enabled to excuse a mistaken diagnosis on the basis of the rarity of the condition, presenting his error as a lesson for all to behold, or he can point proudly to his successful recognition and management of a rare tumor. It is not the purpose of this paper to do either. The so-called adamantinoma of the tibia is a lesion of such low grade malignancy and of such typical history that theoretically it should be successfully and adequately treated by the first surgeon to see it.

Unfortunately the typical history heretofore has usually continued through a long series of inadequate treatments ending in amputation. This presentation is an attempt to review the subject as an entity which can be more easily recognized and more satisfactorily treated.

It was 44 years ago that Fischer [1] first described a bone tumor as adamantinoma of the tibia. Since then 17 [2] cases have been reported, each confirming that the condition has a consistent history, pathologic picture and clinical course.

The actual numerical occurrence of this lesion is undoubtedly much greater than 17, however, because of the inclination of pathologists to report it as an osteogenic sarcoma or metastatic malignant lesion. Especially when reported as the latter, the bone tumor is not registered with the American College of Surgeons or reported in the literature, and the material is never reviewed by more competent pathologists.

Adamantinomas of the jaw, lip, cheek and pituitary are not uncommon, 450 cases having been reported to date.[3] In the region of the enamel-forming organ, this tumor resembles adamantinoma of the tibia grossly and microscopically, but there the resemblance ends. The history, malignancy, tendency to metastasize and general clinical course differ from its namesake in the tibia.

In the 17 cases reported, 12 had a definite history of antecedent trauma; 14 placed the lesion in the lower and middle thirds of the anterior surface of the tibia, while 3 involved the upper third of the tibia. There was swelling with or without pain in all and eventual amputation in eight cases. Of those patients without amputations, three had recurrences which were treated by reexcision of the tumor locally, and several were reported too soon after initial surgery for recurrences to develop. Metastatic lesions were not reported.

The pathologic picture is a consistent one, although cystic degeneration of the mass may occur. There is a bulging, grayish white mass which involves the subcutaneous tissues, periosteum and cortex of the bone, even extending into the medulla later. It is not particularly vascular and has been described grossly as "brain-like" in character.

Microscopically this mass presents [4] "cell nests and masses, the marginal cells resembling ameloblasts. These differentiate centrally either to spindle or stellate cells, or to form intermediate prickle cells and keratinized epithelium. Sometimes the central cells are cuboidal. With a loose central arrangement of the cells, cystic spaces occur and this phenomenon accounts for the grossly cystic forms. In the origin of this tumor, Fischer assumed a downward growth of embryonal ectoderm reaching the bone and differentiating as enamel organ, just as the gingival epi-

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thelium penetrates the maxilla. Dockerty and Meyerding regard it as a specialized type of epidermoid carcinoma.'' [5]

It is interesting that at a recent bone tumor conference in Ohio many pathologists regarded this tumor as an epidermoid carcinoma.

CASE REPORT

The patient was a 16 year old white female who complained of a painful swelling at the junction of the lower and middle thirds of the anterior surface of the left tibia. At the age of 8 she had injured this area in a bicycle accident, following which she was unable to walk for some time. From that time to the present, there has been a swelling at the site of the injury, which has frequently caused pain. This swelling has been traumatized by bumping chairs on several occasions and two years ago was further traumatized by being hit with a bottle.

Five weeks prior to admission she had had a biopsy of the tumor, which was diagnosed elsewhere as periosteal fibrosarcoma.

She was admitted for amputation, but because it was felt that the lesion, if sarcoma, should not be amputated at this late date, surgery was deferred until further studies could be done.

X-ray examination revealed a remnant of a bone lesion on the anterior portion of left tibia at the junction of lower and middle thirds. This appeared quite smooth. There was no bone production compared with the previous films submitted

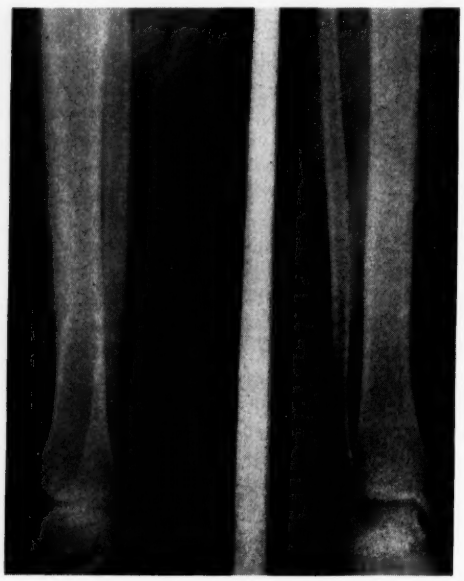

Fig. 1.

Fig. 2.

Fig. 3.

before the operative procedure. There was roentgen evidence that this tumor was a malignant lesion.

Another x-ray examination was done three months later. The operative defect in the anterior portion of the tibia revealed some bone production since the previous examination. This appeared entirely benign as if the lesion were filling in. There was no evidence suggesting bone neoplasm. Six months later reexamination of the lower left leg showed some overproduction of bone at the site of the osteotomy. In comparison with previous films this was a little greater than six months before. There was still no suggestion of a neoplasm.

One year later, anteroposterior and lateral views of the lower left tibia and fibula again showed localized cortical and periosteal irregularity on the anterior aspect of the tibia. Periosteal new bone was somewhat more prominent than when seen six months previously.

Nineteen months after the first admission the patient had a localized painful swelling of soft tissue over the old operative area. This was excised and the tibia saucerized. The saucerization extended well into the medullary portion of the bone, and above and below the old lesion. The excised portion was 6 cm. long and 3 cm. in diameter. Most of it was quite firm and elastic with a grayish semitranslucent cut surface. Firmly imbedded in the tumor were several irregular masses of bone measuring as much as 1 cm.

Sections of the soft portion of the neoplasm gave the picture of spindle cell sarcoma. In some areas the cells were arranged in parallel rows, and the cells had the typical appearance of unstriated muscle fibers. The tumor might be called a mild myosarcoma, the grade of malignancy being between 2 and 3. There was a very considerable amount of fibrous stroma sometimes quite dense, and the bony deposits might represent calcification of the stroma.

Sections were sent to two other pathologists. Dr. Carl V. Weller, of University of Michigan Hospital, reported: "I believe that this unusual neoplasm belongs to the group which is found in the literature under the title 'adamantinoma of the tibia'. It is my opinion that this has nothing to do with tooth development, but resembles the adamentinoma, because in both instances squamous epithelium is growing in dense periosteal connective tissue. I consider this as essentially a basal cell carcinoma. In every case that I have known about, there has been an earlier abrading trauma of the tibial crest. I consider danger of metastasis to be slight, but complete local extirpation is needed to prevent recurrence." Dr. Fred W. Stewart, of Memorial Hospital, New York City, reported: "If there is a roentgenographic lesion which is unchanged, I think the tumor is one of rare adamantinomas of the bone and would, if feasible, be handled by resection and graft, for otherwise it will come to amputation eventually".

The patient's course following extensive local excision has been uneventful, and only the passage of time will tell if the local excision was adequate.

SUMMARY

Despite the differences of opinion concerning the origin of this tumor, adamantinoma of the tibia is a clinical entity with typical course. Because of its low degree of malignancy and failure to metastasize, it should have a favorable prognosis for cure. That the outlook for cure short of amputation has been poor is due to lack of recognition of the tumor and inadequate local excision.

A painful tumor of the anterior surface of the tibia following trauma, with a roentgenographic appearance of invading the cortex of the bone, should suggest this lesion, and adequate local excision should be performed by the first surgeon treating the case.

The report of a case is presented.

SOMMAIRE

Malgré les différences d'opinion concernant l'origine de cette tumeur, l'*adamantinome* du tibia est une entité cliníque d'évolution typique. Vu son degré minime de malignité et son manque de métastase, cette tumeur doit avoir un pronostic favorable pour guérison. La cure par amputation a été pratiquée vu qu'on n'a pas reconnu la nature de la tumeur et qu'on n'a pas fait une excision locale adequate.

Une tumeur douloureuse de la surface antérieure du tibia survenant après un traumatisme; dont la roentgenographie décèle qu'elle envahit la couche corticale de l'os suggere cette lésion et doit être soumes à une ablation adequate par le premier chirurgien qui voi le cas. Un cas est rapporté en detail.

SOMMARIO

Nonostante de difference di opinione tu l' origine di questo tumore, adamantinoma della

(Continued on page 300)

Cholecystocholedochostomy for Preserving a Functioning Gallbladder

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AT the International Congress in Vichy, 1932, Sequels after Cholecystectomy was chosen as the main subject for discussion, showing the interest in this question which indeed presents a grave challenge to surgery. I would summarize my experiences as follows.

A follow-up of my cases gave evidence that the best and lasting results were obtained in *badly infected cases*, empyema, etc., where the gallbladder as a functioning organ did not exist anymore and the electrocoagulation method was applied in dealing with the bladder. *Less satisfactory* were the results in cases of simple cholecystolithiasis, where a certain function of the gallbladder was still preserved. They showed some sort of recurrent trouble in from *15 to 20 per cent. Highly discouraging* were the results, where an attempt was made to cure dyskinetic disturbances of the bladder by cholecystectomy. These observations suggested clearly that a considerable number of so-called *recurrent trouble* after cholecystectomy was due to the missing function of the removed organ. It seemed therefore justifiable and promising to make an attempt to preserve or to restore the normal function of the gallbladder, especially in cases of dyskinesia. The main sign of an impaired function is the *delayed and incomplete emptying*, which is followed clinically by undue pressure in the epigastrium, flatulance and diminished tolerance for food, especially for fat. The pain is probably due to contractions of the bladder, the diminished tolerance for food to the lack of the effective

Fig. 1.—Distended gallbladder 15 hours after intake of dye. Supine position.

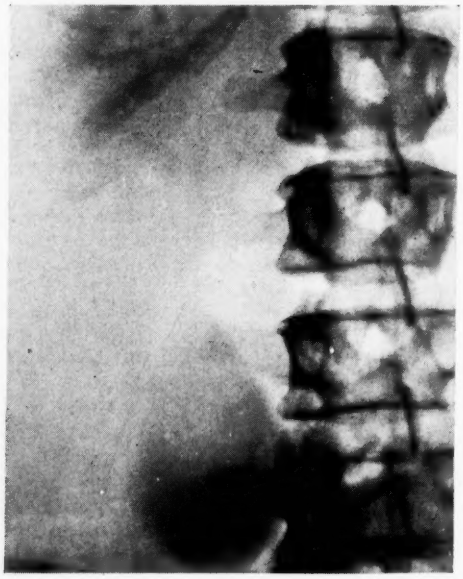

Fig. 2.—Same case as preceding, prone position. Note change of position of the extremely movable gallbladder.

concentrated bladder bile, and the activating hormone (cholecysmon), during digestion. In quite a few cases such incomplete emptying has mechanical reasons such as kinks in a long and tortuous cystic duct, sometimes caused by an abnormally movable ptotic bladder, in others by pericystic adhesions.

The accompanying roentgen pictures give an illustration. Note the considerable change of the location of the bladder in supine and prone position (Figs. 1–4). The emptying process after a Boyden meal (also after injection of prostigmin) is incomplete and greatly prolonged.

A short-circuit operation, removing stasis and facilitating the emptying process, seemed to be the given procedure. However, there are sound objections against performing a cholecystogastro- or cholecystoduodenostomy in such cases. I tried therefore a short-circuit *right below the cystic obstacle* in performing an anastomosis between neck of the gallbladder and common duct, a cholecystocholedochostomy. The technic is not difficult, good exposure provided, which I found best given by the so-called *costal incision.*

The gallbladder is emptied by aspiration of all bile and opened with a small incision on the fundus. It is thoroughly explored with a finger for the presence of small stones. The common duct is exposed and small veins, always present on its anterior wall, ligated. The neck of the bladder is approached to the duct in a suitable position and the anastomosis in a width of 1–1½ in. performed with fine silk, conveniently over a rubber tube. The opening in the fundus of the bladder is closed with a purse-string suture around the tube, which is removed after a few days (Fig. 5).

Already the first case gave encouraging results. It was a woman of 34 who for years had had colics and cramplike pain under the right costal arch, nausea, occasional vomiting and loss of weight. She had already been operated on two years previously, but nothing abnormal had been found. Under the assumption that the trouble might have been caused by a spastic condition in the pylorus, a pyloroplastic was performed. The state of the patient, however, deteriorated considerably after the operation, with increased pressure pain, vomiting and loss of weight. Cholecystography showed a poorly-filled bladder with considerable delay in emptying, which was still incomplete after 10 hours.

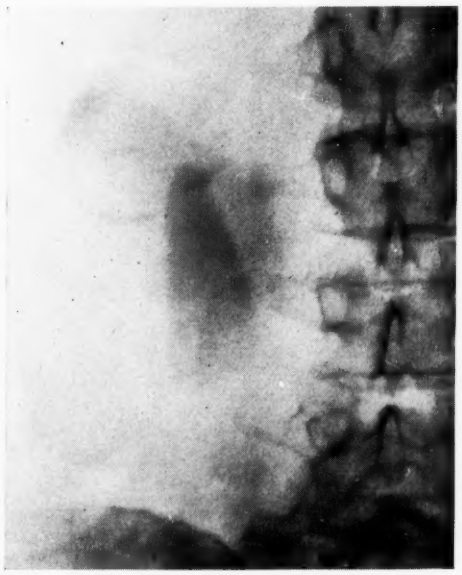

Fig. 3.—Five hours after gat meal. Supine position. Gallbladder not emptied.

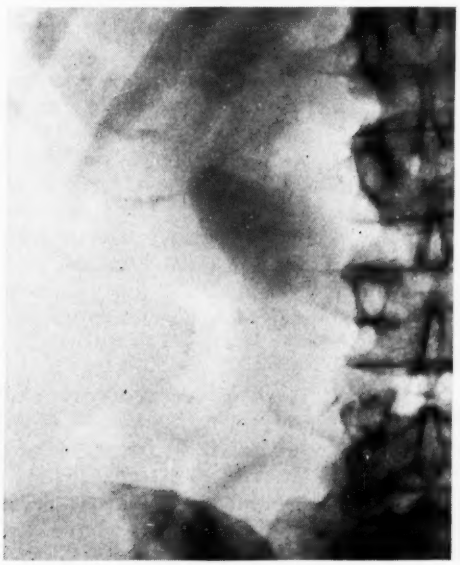

Fig. 4.—Same case as preceding, prone position. Note change of position of gallbladder.

Operation was performed under spinal anesthesia. The gallbladder was found to be enlarged and tense and contained green bile, indicating the stasis. Cholecystocholedochostomy was performed. The effect of the operation was indeed dramatic. The patient had a craving appetite the very first days after operation, which contrasts strikingly to the well-known lack of appetite in the postoperative course after cholecystectomy. It is a general complaint of these patients that all food has the same unappealing taste, while after cholecystocholedochostomy it was observed several times that the patients had even special fancies for certain menus and became real gourmets.

I have performed the operation in 35 cases, also in those with solitary or some facette stones where the gallbladder seemed to be worth preserving. In 32 cases the results could be called satisfactory, in some instances even highly satisfactory. In two instances—both dyskinetic cases—I had to reoperate for persisting and recurrent trouble after a year's time. The anastomosis was found permeable for a little finger. However, cholecystectomy could not free these patients from the trouble either, proving at least that the preservation of the bladder could not be blamed for the condition. One patient died on the eighth day after operation with pneumonia. Figure 6 shows the specimen. Notice the well-healed wide anastomosis and a stone, which could not be removed from the supraduodenal incision and was to be dealt with later on in the postoperative course by the ether method.

In another case the bladder was filled with lipiodol and roentgenographically looked like a normal bladder and cystic duct. However, it was a reconstruction of a bladder with a greatly impaired emptying function, which became normal. The cystic duct above the anastomosis was ligated. The anastomosis in this case was rather small, but has proved to be sufficient.

Indications for this operation are plain. Preservation and reconstruction of a gallbladder can be tried in all cases, where an impaired and delayed emptying function is likely to be the source of clinical trouble. Indications are given in case of simple cholecystolithiasis, where the conditions of the bladder suggest that it is worth while to try to preserve its still existing function. Moderate inflammation is in my experience no contraindication. There is a good chance for the inflammation to heal when any future stasis is avoided and sufficient drainage established through a wide anastomosis.

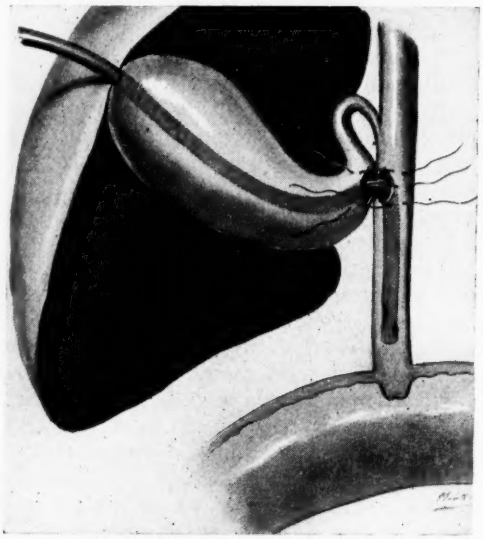

Fig. 5.—Cholecystocholedochostomy over rubber tube.

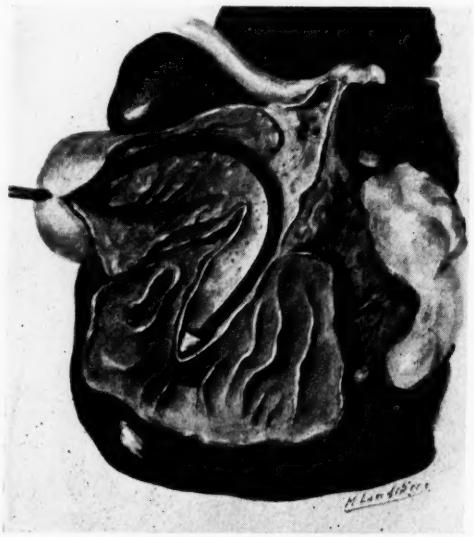

Fig. 6.—Autopsy specimen eight days after operation. Patient died of pneumonia. Note site of anastomosis and enclaved ampulla stone; the latter was to have been dissolved with ether later in the postoperative period.

The Ether Method as Postoperative Treatment for Remaining Common Duct Stones

The frequency of common duct stones overlooked at operation is admitted to be quite high, and the late Lord Moynihan was certainly right when saying that the surgeon who can claim that he never left a stone behind is not yet born. According to recent statistics (Kirchner's Clinic), 50 per cent of recurrent troubles were found to be caused by stones left in the biliary ducts. Two reasons can be found for this. (1) Stones in the ampulla can be so deeply and firmly imbedded in crypts or ulcerations that they are actually inaccessible through the routine supraduodenal incision. Even a big bougie may pass easily through the papilla, by-passing the stones which become detached from their bed only later. (2) Stones may be pressed upwards during an attack of colics and vomiting into the intrahepatic ducts and descend only some time later into the common duct towards the papilla. I have observed both instances. Two methods have been developed in recent times to improve the results of dealing with common duct stones: Mirizzi's method of cholangiography on the operating table and the Pribram method for dissolving such "left-behind stones" under cholangiographic control in the postoperative course. However, I feel that these two methods do not compete with each other, both serving in a way different purposes. I do not think cholangiography on the table should ever induce the operator to close the common duct in case of multiple stones and mud, and to omit cholangiographic control in the postoperative course. This statement, however, does not at all detract from the great value of this excellent method. The ether method is based on the fact that the scaffolding of the usual gallstone is formed by cholesterol which is soluble in ether. In dissolving this scaffolding it disrupts the structure of the stones, causing them to break up and to crumble down to a mud which can easily pass the papilla. Indications for using the method are given when cholangiography in the postoperative course shows that stones are still present, the intrahepatic ducts fill through back pressure and there is not convincing evidence that the papilla is completely free. *Of practical importance is the fact that knowing there is a very good chance of*

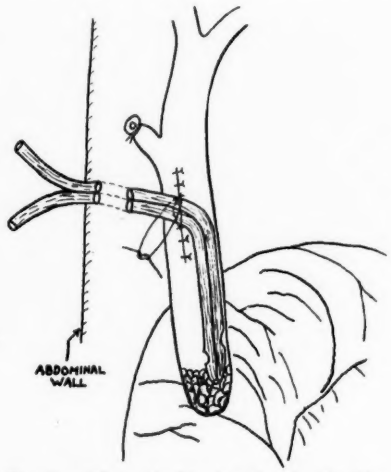

Fig. 7.—Schematic drawing showing double-barrelled catheter stitched water-tight into the common duct, the head of the catheter touching the common duct stones.

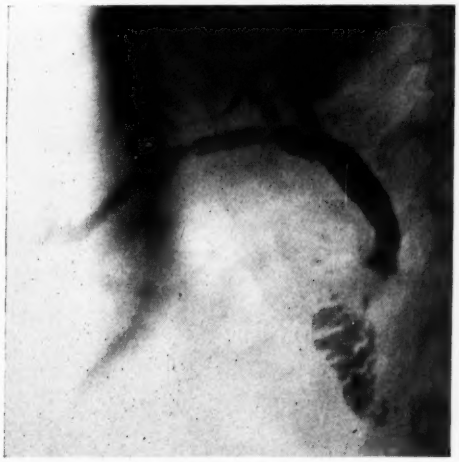

Fig. 8.—Cholangiogram showing ampulla full of stones.

being able to free the papilla in the post-operative course, we are not compelled to force the issue of freeing the papilla in cases of poor risk, or those with cholemia and septicemia on the operating table. This has caused the mortality in such cases in my material to drop from 20 per cent to about 3 per cent. In all of 51 cases the method worked excellently, preventing a second operation.* As other surgeons had success in only a certain percentage, or none at all, in freeing the papilla, I must conclude that there must be a difference in the technic.

Some basic questions need discussion. Why ether and not chloroform which is chemically a much better solvent? I tried both chloroform and acetone. These solvents should not be used. After the use of chloroform I have seen ulcerations in the duodenum with serious hemorrhage and have nearly lost a patient. Acetone is badly tolerated. So I found after many experiments that ether is the best for the purpose. Mixing ether with about 10–20 per cent alcohol increases the boiling point, and thus diminishes the pressure of ether which boils at 36–37° C. (body temperature). The solubility for cholesterol decreases, however. Therefore the amount of alcohol should not exceed the percentage mentioned above. The opinion has been voiced that the success of the ether method is not due to its dissolving properties, but that the ether, boiling at body temperature, blasts the way open through the papilla. This is certainly wrong. However, this idea apparently has induced some surgeons to use force in injecting as much as 5 cc. and even more at the same time, certainly not to the liking of the patient and without success, as such injections are always followed by a vigorous spasm of the sphincter. I should like to emphasize that any *undue pressure* should be strictly avoided. It should not be a forcible injection but rather a washout by installation of ether drops which slowly hollow the stones. The gradually diminishing size of the stones could actually be followed in some cases by a series of cholangiograms. The technic which proved best is described.

* Follow-up has shown that one patient has been operated on three years later for recurrent trouble by another surgeon. I could not obtain the findings at the operation—whether the trouble was caused by stones or other things.

TECHNIC

After opening the abdomen with a costal incision, the gallbladder is treated first by electrocoagulation, a procedure which can be accomplished in a few minutes. The common duct is

Fig. 9.—Same case as preceding, 23 days after ether treatment; ampulla contains no stones. Note absence of back pressure in intrahepatic ducts.

Fig. 10.—Rubber tube is easily pushed through the papilla, passing up into the duodenum.

then opened by a supraduodenal incision, and all accessible stones are removed. There is no harm in trying to pass sounds with increasing caliber through the papilla as long as this procedure is carried out with the *greatest gentleness*. But as soon as this dilatation deserves the term "forcible dilatation," it becomes a risky procedure. We observe soon after the first successful probing that a spasm of the sphincter sets in, which requires smaller calibers of probes. When trying to overcome this spasm by force, the danger of a faulty route arises. There is special danger of penetrating into the surrounding pancreatic tissue, without noticing it at the operation. This occurs much more often than is usually realized. By producing a tearing or even a crack in the papilla, the danger of a stricture through scars arises. Furthermore, the passing of a sound into the duodenum is by no means a sign that all stones are removed. The sound may easily by-pass a stone and enter the duodenum, giving the erroneous impression that all stones had been removed. Postoperative cholangiograms of such cases may cause some surprise about this. In badly infected cases with obstruction of long duration all such attempts had better be avoided.

After these attempts to free the papilla by mechanical means, a simple rubber tube or catheter with two side holes is introduced downward into the common duct, the head of the tube touching the stones. The caliber of the tube should be chosen according to the width of the common duct, so that bile draining down from the liver may easily pass by the tube. A T-tube is unsuitable both for cholangiography and the ether method. The wall of the common duct is stitched watertight around the tube with fine silk and held in position by tying the stitches around the tube. Another small rubber tube allowing drainage from the wound bed may be left for 48 hours. Uneventful recovery is usual, provided the first cholangiogram can be made between the fifth and seventh day. I prefer the oily lipiodol as opaque liquid, because a watery solution frequently causes disturbing precipitation with the bile. Even in presence of stones in the ampulla, some dye frequently passes through the papilla into the duodenum. *However, any filling of the intrahepatic ducts indicates some back pressure and that the papilla is not quite patent.* Ether treatment is started when the cholangiogram proves the presence of stones and a papilla not absolutely free. The ether treatment is carried out on the fasting patient in order to diminish bile secretion. All bile from the ducts is aspirated by a syringe, then ether is injected drop by drop. As soon as the patient signals the slightest pressure, ether is re-aspirated, to be injected again when the pressure subsides. The use of a *double-barrelled catheter*, which allows all ether vapors to escape during injection, has proved advantageous (Fig. 7). This washout is repeated often and can be carried out several times daily. After each ether washout 5 cc. of warm paraffin oil or olive oil is injected and the rubber tubes are closed. The patient opens it as soon as he feels some pressure. Cholangiographic control is repeated in six to eight day intervals.

Liberation of the papilla can already be seen during the washouts, when warm saline can be injected in increasing amounts without draining back. When cholangiographic control shows that the papilla is completely free and *the intrahepatic ducts do not fill any more*, the rubber tube can be easily passed to and from the papilla without causing a painful sensation. Then the tube is removed. The fistula closes after 24 to 48 hours. The time necessary for freeing the papilla varies from one to six weeks and depends on many conditions, the main one being character of the stones and their accessible surface. One should not get impatient when after one to two weeks the cholangiogram shows the papilla still blocked. The crumbling-down of the stones takes time; however, sometimes the result is surprisingly sudden, and the whole mud passes the papilla without any further sensation. I am including here a cholangiogram of a patient of recent date who caused me many headaches, because the admitting physician was extremely skeptical and wanted a second operation; finally on the 25th day I was able to convince him that the method did the trick. The cholangiograms are sometimes perhaps dramatic, but the method is not. It is a conservative method which requires patience and time, a time which I feel is not wasted.

SUMMARY

The technic of cholecystocholedochostomy is described, together with the good end-results obtained in those cases in which it was used. The ether method is recommended as postoperative treatment for remaining common duct stones, and its technic is described in detail.

SOMMAIRE

La technique de la cholécystocholédochostomie est décrite. Sont decrits aussi les bons résultats obtenus dans les cas où cette technique fut employée. Une autre méthode de brailement post-opératoire pour les cas où il existe des calculs dans le cholédoque. La technique est décrite en details.

SOMMARIO

La tecnica del colecistocoledocostomi viene descritta assieme con i buoni risultati ottenuti in quei casi nei quali fu usato. Il metodo dell' etere viene raccomandato come trattamento dopo l' operazione per le pietre rimanenti nel condotto comune e la sua tecnica viene descritta in dettagli.

SUMARIO

Se describe la técnica de la colequistacoledocolostomia conjuntamente con los buenos resultados finales obtenidos en aquellos casos en que dicha técnica fué empleada. El método del éter se recomienda como tratamiento postoperativo para las piedras que queden en los conductos comunes y se describe en detalle su técnica.

Свод

Описана оперативная техника холесисто-холедокостомии и даны хорошие конечные результаты, полученные в тех случаях, где эта операция была применена. Эфирная метода рекомендуется для послеоперативного лечения камней общего протока, и описана подробно ее техника.

ADAMANTINOMA OF THE TIBIA

(Continued from page 293)

tibia e una entita clinica con corso proprio. Dato il basso grado di malignita e cancanza di propagarsi, dovrebbe avere una prognosi favorevole di cura. Se l' aspetto per cura senza amputizione, e stato povero, e dovuto a mancanza di conoscenza del tumore ed insufficiente eccisione locale.

Un tumore doloroso della superficie anteriore della tibia a seguito di trauma, con roentgenografico apparenza di invasione della cortice dell' osso, dovrebbe suggerire questa lesion ed una dovuta eccisione local deve essere fatta dal primo chirurgo che cura il caso.

Un rapporto del caso viene presentato.

SUMARIO

A pesar de las diferencias de opinión en lo que concierne al origen de este tumor, el adamantinoma de la tibia es una entidad clínica con un curso típico. Debido al bajo grado de malignidad y al fracaso de la metástasis, tendrá un pronóstico favorable para la curación. La perspectiva de una cura corta por amputación ha sido pobre, debido a la falta de reconocimiento del tumor y a la inadecuada excisión local.

Un tumor doloroso de la superficie anterior de la tibia al que sigue el trauma, con la aparición en los rayos X de la invasión en la corteza del hueso, sugerirá esta lesión, y el primer cirujano que trate el caso deberá ejecutar una excisión local adecuada.

Se presenta el informe sobre un caso.

Свод.

Несмотря на разные мнения о происхождении этой опухоли, адамантинома большеберцовой кости является клинической единицей с типичным курсом. Благодаря низкой степени злокачественности и отсутствию метастазов, она имеет хороший прогноз. Если перспектива излечения без ампутации была плоха, то причиной является нераспознание опухоли и неадэкватное местное иссечение.

Опухоль передней поверхности большеберцовой кости, причиняющая боль и возникшая после траумы, вместе с рэнтгенографическим показанием вовлечения костяной коры, подсказывает диагноз этой опухоли. Первый хирург, лечущий больного, должен сделать адэкватное местное иссечение.

Доложен один случай.

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The Significance of Multiple Hernias in the Inguinofemoral Region†

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A HERNIA in the inguinofemoral region is only a sign of a weakness which may sometimes involve the entire area where direct and indirect inguinal and femoral hernias occur. This generalized weakness, variable in degree and extent but always potentially a danger, may exhibit itself early with the almost simultaneous appearance of multiple hernias; or the various types of herniation may occur in succession. A second or third different type of hernia may occur after surgical repair of the first hernia. The following two cases are illustrative.

Case 1.—R. D., 61 years old, a butcher, had a left indirect inguinal hernia extending down into the scrotum, and on the right side he had a direct inguinal hernia, a femoral hernia and an indirect inguinal hernia. According to the patient, they had all developed at about the same time (Fig. 1).

Both sides were repaired identically. A pathologic appendix was also removed. The only other complication was that his lungs were riddled with old, apparently healed tuberculous lesions. He made an uneventful recovery and gained over 20 lb. in the first three postoperative months.

Case 2.—This man, a janitor, was 53 years old and quite muscular. When he first presented himself at the hospital he had evidence of a direct inguinal hernia on the left side. The hernia was repaired by a staff surgeon, and the man was discharged as cured.

A year later he returned. This time, on the side where he had had the direct inguinal hernia repaired, he had developed a femoral hernia. On the other side, the right side, he had developed an indirect inguinal hernia (Fig. 2). These two were subsequently repaired by a staff surgeon, and the man was again discharged as cured.

Five years later, he returned. This time he had developed a direct inguinal hernia on the side repaired. On the other side a postoperative varix where he had had his indirect inguinal hernia (Fig. 3) had developed.

If originally a proper repair had been made of the entire three potential hernia areas on each side, such as with the inguinal panhernioplasty technic,[1] it is doubtful whether he would have had these recurrences.

GENERAL DISCUSSION

In the second case, it may be pointed out that the occurrence of a femoral hernia after an inguinal hernia operation may have been partly attributable to the fact that the surgeon approximated a firm, well-developed internal oblique muscle and conjoined tendon to a poorly developed, lax inguinal ligament, with the result that instead of the internal oblique and conjoined tendon being held down by the inguinal ligament, it simply pulled the inguinal ligament upwards, thus enlarging the femoral canal and assisting any tendency to hernia in that direction.

One cannot always assume that the inguinal ligament is a firm stationary structure. Sixty dissections in the anatomy laboratory revealed that it can be quite thin and poorly developed, whereas at the same time the internal oblique and transversus abdominus muscles and the conjoined tendon can be powerfully developed.

Furthermore, incorrect anatomic replacement can increase an existing predisposition to hernia formation. The occurrence of a direct inguinal hernia following the repair of an indirect inguinal hernia can sometimes probably be attributed to faulty surgical technic. In its medial aspect the conjoined tendon and subsequently the transversalis fascia posterior to it should be sutured inferior to the posterior aspect of the firm

† Appreciation is extended to Prof. C. P. Martin, Dept. of Anatomy, and to Prof. Fraser B. Gurd, Dept. of Surgery, McGill University, for their kind interest in this work on hernias. This investigation was partially aided by a grant from the James Cooper Fund, McGill University.
* Dept. of Anatomy, McGill University.

Cooper's ligament, along the ileopectineal line. This is a firm stationary structure for fixation, and it is doubtful if Cooper's ligament could be pried up by action of the conjoined tendon. Furthermore, this approximation of transversalis fascia to the ileopectineal line is more physiologic than anterior in the direction of the inguinal ligament.

STATISTICS

The second case described is slightly exceptional in that the patient returned twice to

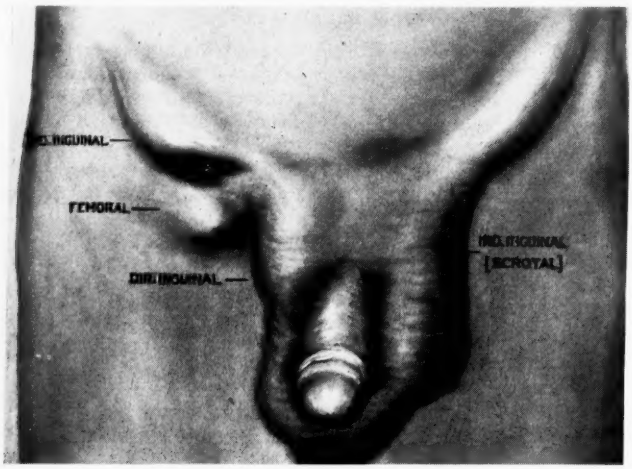
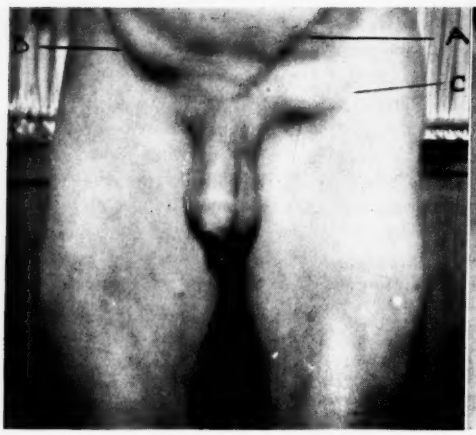


Fig. 1.



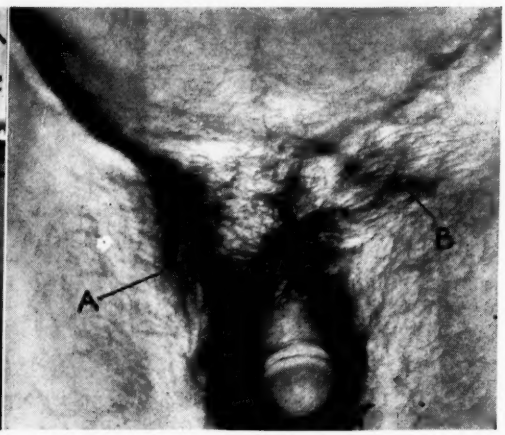


Fig. 2 *(left)*—*A*, operative scar from direct inguinal hernia repair. *B*, indirect inguinal hernia. *C*, femoral hernia.

Fig. 3 *(right)*.—*A*, direct inguinal hernia. *B*, postoperative varix.

the same institution where he had had his previous hernias repaired. A perfect follow-up system, except perhaps in the armed forces, is difficult to enforce. Statistics are being compiled on the recurrence rate following simultaneous repair of multiple hernias. The ideal surgical treatment of any kind of hernia in the inguinofemoral region is one which repairs, at one time, the regions involved in direct and indirect inguinal and femoral herniation. One way to accomplish this is by employing the inguinal panhernioplasty technic.[1] Over 200 consecutive cases have been dealt with in this manner during the past three years and so far, in spite of allowing the average patient out of bed within 48 hours, the results have been satisfactory.

SUMMARY

A hernia in the inguinofemoral region is only a sign of a weakness which may involve the entire area where direct and indirect inguinal and femoral hernias occur.

Two cases of multiple hernias are described illustrating this point. It is recommended that in the inguinofemoral region, in spite of the type of hernia or hernias present, the entire three potential hernia areas be repaired at the same time with a suitable surgical procedure such as the inguinal panhernioplasty technic.

SOMMAIRE

Une hernie dans la région inguino-fémorale est un signe de faiblesse intéressant toute la région siège de hernies inguinales et de hernies fémorales.

Deux cas de hernies multiples sont rapportés et démontrent cette assertion. Il est recommandé que dans les cas de hernies de cette région, qu'elles soient uniques ou multiples, les trois régions herniaures potentielles soient reparées, dans la même séance par un procédé chirurgical tel que la technique inguinale panhernioplastique.

SOMMARIO

Ernia nella regione inguinofemorale e solo un segno di debolezza che puo abbracciare l'intera superficie dove diretta a indiretta ernia inguinale e femorale accorre.

Due casi de ernia multipla vengono presentati per illustrare questo punto viene raccomandato che nella regione inguinofemorale, malgrado il tipo di ernia o ernie presenti, le tre superfici potenziali di ernia vangono riparate nello stesso tempa con una operazione adatta quale la tecnica della ricostruzione dell ernia inguinale.

SUMARIO

Una hernia en la región inguinofemoral es solamente un signo de debilidad que puede abarcar el área total donde directa o indirectamente suelen producirse las hernias inguinales y femorales.

Para ilustrar este punto se informa de dos casos de múltiples hernias. Se recomienda que en la región inguinofemoral, sea cualquiera que sea el tipo de hernia que se presente, las tres áreas potenciales de la hernia deben repararse al mismo tiempo con un procedimiento quirúrgico eficiente, tal como la técnica hernioplástical total inguinal.

Свод

Грыжа в пахово-бедренной области является только знаком слабости, вовлекающей все поле, где случаются прямые и косвенные паховые и бедренные грыжи. Доложены два случая множественных грыж, иллюстрирующие этот вопрос. Рекомендуется, что в пахово-бедренной области, несмотря на тип грыжи, эти три потенциальные грыжевые пункты должны быть одновременно укреплены подходящей хирургической методикой, как например, паховая пангерниопластика.

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Pyloric Obstruction Due to Stenosing Ulcer in the Aged*

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WITH increase in experience in treatment of peptic ulcers, and with peptic ulcer becoming a surgical problem, the surgeon is occasionally confronted with a patient of advanced years suffering from stenosing duodenal ulcer due to cicatricial contraction. In the past, the aged formed a large group needing surgery; this group accounted for many failures, since surgery was used only as a last resort. In the past ten years notable advances in surgery have been made in its application to patients of this older group; daily the older patient goes through heavy surgical interventions with surprisingly low mortality. This is due to more intelligent preoperative and postoperative treatment, safer anesthesia and greater attention to operative technic.

Much has been written lately about the surgical management of peptic ulcer in the younger age group, but very little attention has been given the older group. We have found that stenosing peptic ulcers of the duodenum in individuals past 55 years of age are an exacerbation of long-standing, chronic ulcer disease which has damaged and caused contraction of the first part of the duodenum and the pylorus.

In seeking to estimate the duration of symptoms, we found that most of them gave a history of chronic ulcer disease extending over many years, even into the early decades. Intolerance to foods, indigestion, belching and bloating after meals, pain a few hours after meals relieved by eating or by ingestion of an alkaline powder, nausea and vomiting, constituted frequent histories. The onset of this ulcer disease was gradual, with relief of symptoms in summer or winter and recurrence in spring or fall. Examination of the patient at admission revealed a marked chronic dilatation of the stomach with an obstruction at the outlet by a cicatricial occlusion. Such cicatricial occlusion may occur in younger individuals, but in our experience was found mostly in persons past middle age.

The duration of attack resulting in hospitalization varied from a few months to several years. Abdominal pain was the chief complaint in all our cases, and it originated in the epigastrium. Some reported radiation of pain to the back or across the abdomen. Abdominal distention was noted in some cases, and tenderness was localized in the epigastrium in all cases. Nausea and vomiting were present in all, and regurgitation of foul smelling gases was present in some instances. A number of the cases studied appeared well-nourished, while others were undernourished and dehydrated with considerable loss of weight.

Preoperative temperatures ranged from 98 to 98.6 F. Blood pressure readings varied from systolic 118 to diastolic 80, and from 200 systolic to 110 diastolic. Pulse rates ranged from 60 to 90 per minute. Complete blood counts were done on all patients, and the hemoglobin ranged from 74 to 90 per cent. The red cell count ranged from 3,680,000 to 4,750,000, and white cell count from 4,800 to 11,500. The sedimentation rate was within normal limits in most, and rapid in some. Fasting blood sugars were made in all, and levels of 75 mg. to 150 mg. per cent were obtained. Blood urea and nitrogen determinations were within normal limits in some and elevated in others. The prothrombin and icterus determinations were within normal

* Read at the Eleventh National Assembly, U. S. Chapter, International College of Surgeons, Detroit, Michigan, Oct. 22, 1946.

† From the Department of Surgery, Creighton School of Medicine, Omaha.

limits in most cases. Gastric analysis revealed a low acidity in all. Examination of the abdomen revealed an enlarged stomach which was clearly outlined; otherwise the abdomen was soft. X-rays of the stomach after barium meal revealed a large dilated stomach, and the barium did not seem to leave the stomach during fluoroscopic examination; large quantities of barium residue were found 24–48 hours after ingestion. Electrocardiographic studies revealed some myocardial damage in a few and some evidence of coronary disease in other cases.

At operation a grossly enlarged and thick-walled stomach with marked gastritis was present in all of our cases. There was a completely stenosed pyloric end of the stomach and first portion of the duodenum, markedly contracted and markedly adherent to the head of the pancreas and surrounding tissues. The duodenum was found shortened and drawn into the liver sulcus.

On admission to the hospital a careful survey of each patient was made; the general systemic conditions were treated along with the chronic obstruction. A Levin's tube was introduced through the nostrils and led to the stomach, and continuous suction was begun and carried on from several days to a week to relieve the edema of the gastric walls and nausea and vomiting, and to remove the previously ingested barium. Nothing except ice water was given by mouth. Ice bags were placed on the upper abdomen with great relief of pain. Every 12 hours, 1,000 cc. of a 10 per cent dextrose solution in sterile distilled water was given intravenously. Blood transfusions or blood plasma was given in most cases once daily or every other day for relief of hypoproteinemia and for general debility. Cardiac disease was completely compensated by digitalization. Vitamin K, large doses of ascorbic acid and vitamin B complex were given intramuscularly once daily. It was necessary to continue this procedure for several days to a week to relieve the edema of the gastric walls and to insure safer suturing.

Because many observers believe these lesions to be the end-result of healed duodenal ulcers, we felt it necessary to do no more than to correct the mechanical obstruction, either by a short circuiting operation or by a pyloroplasty. We considered this sufficient, believing that with low acid findings, good results should be obtained from these procedures.

Posterior gastro-enterostomy has proved to be the simpler and safer procedure for this mechanical obstruction with good immediate results. In many cases the good results appear to be permanent. As this mechanical obstruction was relieved, the patients regained normal acid levels; in some instances a hyperacid level appeared. Some patients returned with symptoms of hyperacidity, peptic ulcer, massive hemorrhage, or perforation at the gastrojejunal anastomosis from marginal ulcers. On examination some patients were found to be suffering from reactivation of the previous ulcers and others developed gastrojejunal ulcers. One patient of 60 had a gastrojejunal ulcer, which on the microscopic examination showed malignant changes on the gastric side and benign changes on the jejunal side. These results have led us to look upon such a procedure as gastro-enterostomy with considerable apprehension.

Therefore, before planning surgery for the patient with a mechanical obstruction of the duodenum due to ulcer, more radical procedure should be considered. In the last few years we have subjected our patients with mechanical obstruction due to duodenal ulcer to a subtotal gastric resection with surprisingly good results. They have been studied every three months after operation, and none, to date, has shown symptoms of hyperacidity. The gastric stoma has functioned well with no recurrence of ulcer in the region of anastomosis.

TECHNIC

The evening before operation a thorough, cleansing enema is given, followed by prostigmin 1:4000 for several doses six hours apart. Abdomen and chest are surgically prepared. Three grains of sodium luminal is given hypodermically to insure a good night's rest, and morphine sulfate and atropine sulfate are given one hour before operation. We have found cyclopropane and ether the anesthetic of choice, intratracheal preferred. Ten per cent dextrose solution in sterile distilled water and transfusion of blood is allowed to run in slowly by vein during operation. All our resections are done by anterior anastomosis, and the operation is easily performed. The difficult problem was finding a satisfactory method of closing

the duodenum safely without obstruction to the common duct or to Vater's ampulla. By mobilizing the free lateral border of the duodenum and by dividing the peritoneum in its upper border, and by rotating the duodenum medially, its relation to the gastrohepatic omentum is easily recognized. Incision through the peritoneal fold covering the common duct is made for exposure to permit the recognition of the relation of the common duct and Vater's ampulla to the ulcer. Then it can be readily seen whether the ulcer can be removed and sufficient duodenum be left for safe closure. We complete anastomosis first, after transecting the stomach in the proximal one-half or one-third. The technic for gastric anastomosis is the Hofmeister modification of Polya's method, using an anterior, open anastomosis.

After the anastomosis is completed, the abdominal packs covering the distal stump are removed, the distal gastric stump is lifted and pulled down and the right gastric artery is doubly ligated with a cotton suture close to the duodenum; the gastric hepatic omentum is cut. The gastric stump is then pulled upward, and the antral region is mobilized by pushing the fused mesocolon containing the middle colic artery back gently with gauze without hemorrhage or injury to the artery. The gastric stump is then raised and the gastric colic omentum ligated down to the duodenum and the vessels tied with cotton. This permits free exposure to all sides of the inflammatory area, and as the adhesions of the stomach to the pancreas are encountered, they are easily divided as far as the attachment of the pancreas and the duodenum under direct vision without injury to the pancreas. Two light clamps are then applied at the pyloric end of the stomach and the distal gastric stump is removed. The clamp holding the pyloric end of the stomach is removed, the edges of the pyloric stoma are grasped with Allis forcpes, the stoma opened and the contents aspirated. The area is then swabbed with some antiseptic solution. The pylorus and the duodenum are cut longitudinally to just beyond the ulcer and then transversely with removal of the portion of the duodenum containing the ulcer along with the pylorus. The edges of the duodenal stoma are grasped with Allis forceps and the duodenum is lifted so that no duodenal contents are spilled. The duodenum is then closed by a continuous Connell suture of no. 0 chromic and reenforced by continuous suture of no. 0 chromic, and again reenforced by a continuous right-angle stitch of cotton. The duodenal closure is further strengthened by covering it with the omentum. If the ulcer has penetrated the posterior portion of the duodenum and is closely adherent to the head of the pancreas, no effort is made to remove the ulcer, for we have found that the base of the ulcer may consist of pancreas and scar tissue, and any attempt at removal results in severe hemorrhage difficult to control. Therefore, by lifting the rim of the duodenum away from the ulcer and by leaving the base intact, the duodenal stoma is easily closed without undue risk. If the ulcer is closely adherent to the common duct or to Vater's ampulla, it is left intact, for attempt at removal would cause occlusion of the common duct or to Vater's ampulla. The gastric mucosa is removed from the pylorus and the pylorus closed as described. All of our patients have stood this procedure satisfactorily with very low mortality and morbidity rates.

The postoperative care is the same as previously described, consisting of continuous gastric suction for four to five days. Water by mouth is permitted freely. We depend solely on blood transfusion and blood plasma to combat hypoproteinemia and shock. Dextrose solution with sterile distilled water is given intravenously, and ascorbic acid and vitamin B complex and vitamin K intramuscularly. Penicillin is given intramuscularly and occasional sulfa medication is used to combat infection. Our patients move about freely in bed and are up and about on the fifth to sixth day with no ill effect. Feedings are started on the fifth or sixth day and reach a normal diet by the third week. No tobacco or alcohol are allowed for an indefinite period; all patients are permitted to return to their normal mode of living in six weeks to two months.

Follow-up results have shown no recurrence of symptoms to date, and all patients have been able to consume a normal diet of three meals a day.

SUMMARY

1. Stenosing duodenal ulcers producing pyloric obstruction occur frequently enough in persons past middle age to warrant special consideration.

2. The obstruction in the region of the pylorus due to stenosing ulcer should be looked upon as a complication of long-standing ulcer disease.

3. Stenosing ulcers producing pyloric ob-

struction occur most frequently in persons past middle age.

4. Cicatricial occlusion of the pylorus in individuals past middle age requires careful surgical consideration.

5. With proper preoperative and postoperative treatment, safer anesthesia and greater attention to operative technic, these older patients can be operated on with low mortality rate.

6. Subtotal gastric resection is the operation of choice and has been carried out in most of our cases with very low mortality.

SOMMAIRE

1. Les ulcères duodénaux sténosant produisant fréquemment un obstruction pylorique chez les personnes passés l'âge moyen.

2. L'obstruction dans la région du pylore, due à ulcère sténosant, doit être envesagée comme une complication d'ulcère de longue durée.

3. Ces ulcères sténosants produisant une obstruction pylorique se rencontrent le plus souvent chez les personnes qui ont passé l'âge moyen.

4. L'occlusion cicatricielle du pylore survenant chez les individus d'âge moyen ou plus âges demande une étude chirurgicale soignée.

5. Avec un traitement pré-opératoire et post-opératoire approprié et une attention minutieuse de la technique opératoire, ces malades peuvent être operis avec une mortalité beaucoup réduite.

6. La résection gastrique sous-totale est l'opération de choix et nous a donné dans la plupart de nos cas une mortalité réduite.

SOMMARIO

1. Ulcere duodenali stringenti che producono ostruzione pilorica occorrono frequentemente in persone di eta avanzata do quistificare considerazione speciale.

2. L'ostruzione nella regione del piloro dovuta ad ulcera stringente deve essere riguardata come una lunga complicazione di malattia di ulcera.

3. Ulcere stringenti che producono ostruzioni piloriche occorrono molto frequentemente in persone di eta avanzata.

4. La chinsura del piloro prodotta dalla cicatrice in individui di eta avanzata richiede attenta considerazione chirurgica.

5. Con dovuto trattamento prima e dopo l'operazione, con attenta anestasia e pui grande attenzione nella tecnica operativa, questi vecchi infermi possono essere operati con una bassa rata di mortalita.

6. La rimozione quasi totale dello stomaco e l'operazione che da migliori risultati ed e stata fatta nella maggioranza dei nostri casi con bassissima mortalita.

SUMARIO

1. La estenosis de las úlceras duodenales que producen obstrucción pilórica ocurren frecuentemente en las personas que pasan de la edad media de su vida y requieren especial consideración.

2. La obstrucción en la región del píloro, debida a la estenosis de la úlcera deberá contemplarse como la complicación de una enfermedad ulcerosa de larga permanencia.

3. La estenosis de las úlceras que produce la obstrucción del píloro ocurre con más frecuencia en personas que pasan del la edad mediana.

4. La oclusión de cicatrices del píloro, en individuos que pasan de la edad media requieren una cuidadosa consideración quirúrgica.

5. Con tratamientos preoperativo y postoperativo apropiados, cuidadosa anestesia y gran atención para la técnica operativa, esos pacientes de mayor edad pueden ser operados con una baja mortalidad.

Свод

1. Стенозные дуоденальные язвы причиняющие обструкцию pylorus'a случаются достаточно часто в среднем возрасте, чтобы заслужить серьезное внимание.
2. Обструкция в области pylorus'a, причиненная стенозной язвой, должна считаться осложнением старой язвенной болезни.
3. Стенозные язвы, дающие обструкцию pylorus'a найболее часто развиваются после среднего возраста.
4. Рубцевая окклюзия pylorus'a у больных после среднего возраста требует

(Continued on page 317)

Anatomy and Embryology of the Anus in Relation to the Pelvic Floor

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THE pelvic floor or caudal wall has a community interest in special fields such as gynecology, proctology and urology, which follow the three tracts through its 2½–3 cm. of musculofascial structure. That part of the intestinal tract which is found almost entirely in this wall and which has been counted so important as to furnish the name for the specialty of proctology, and has been the basis for extensive nomenclature, carries such variance of terminology as to make its standing among the family of these closely united structures uncertain and therefore unworkable. The pelvic floor and its penetrating terminal tracts should be recognized as a closely knit and well understood structure to complete this part of the abdominal wall and allow passage, support and functional supervision of the three terminal tracts which find exit at this region.

We find no difference of opinion as to the terminology of the urethra and vagina, but find the widest variation in terminology of the anatomy and functions of the lower part of the intestinal tract. Proctology takes its name from a Greek word meaning anus, but in the confusion of classification came to include the rectum, so that a proctoscope now usually means an instrument to include the examination of the rectum, and the specialty has extended its field to include the rectum and sigmoid colon. Little attention has been given, however, in work on the anus, rectum and colon to their setting or their relations to the pelvic floor or adjacent tracts. In fact, numerous treatises and text books have been written without mention of the pelvic floor or the frequent herniations of the intestinal tract terminals, which are certain to take place through it.

The fundamental fault, however, is the wide variation in concept of the anatomic structure of the region studied by the proctologist. We have the anus, rectum and colon considered on a par, and as such they are allotted their definite extent and limitations. As such the anus is designated by some authors as a musculocutaneous tubular structure constituting the terminal portion of the intestinal structure, and extending from the anorectal junction 2½–3 cm. downward and backward to the intestinal exit or anal orifice. This traverses the thickness of the musculofascial pelvic floor structure and thus lies almost entirely within the pelvic floor. As such it is sphinctered and supported by the sphincter and system of muscles surrounding the lower end of the anus, and supported and sphincteredby the levator ani, including the portion known as pubo rectalis or sphincter recti, surrounding and attached to its upper end.

At variance from this conception of the anus as the terminal structure of the intestinal tract is the widely accepted view that the anus is the aperture leading from the lower portion of the intestinal cavity to the exterior. This view of the anus as an aperature, an orifice, a slit, a hole, renders the anus structureless and leaves no occasion or no rational reason for the anus or anal canal to be associated as a system of external sphincter ani muscles, or an internal sphincter ani muscle, or an anorectal junction, or anal fascia, or the very important levator ani muscle, or the anal orifice (if the anus is already an orifice), or the anal canal, for the anus as an orifice cannot be or cannot have a canal. Manifestly, if we are going to take the lower three structures of the intestinal system, the anus, rectum and colon, each having its own structure, to fill its own place and perform its own function, and let two of them continue as is, and presto, change the third and terminal section into an

orifice or aperture, a hole without structure, with nothing to attach adjacent structures to, some wide jumps must be taken to make this seem at all consistent.

As anomalous as this seems, it is likely that all will not see eye to eye, and confusion and inconsistencies occur. If the word anus is lifted from the piece of viscera usually known by anatomists as the anus and applied only to the exit aperture of the anus, then all of the intestinal tract that passes through the 2½–3 cm. thick musculofascial pelvic floor is left without a name. This does not obliterate the structure which has been known as the anus, but it leaves it nameless. What shall we call it? First let us see what it has been called.

Of course, if the anus is a slit-shaped aperture, it will seem strange that the tubal structure running from the slit to the rectum should be called the anal canal, but it is perhaps no more or no less inconsistent than to call the orifice the anus; but so they are both called. However, there is no reason to call a definite, organized structure a canal belonging to the anus, when the anus is a structureless slit outside the area of this particular portion of bowel. We are familiar with the old saw of "the tail wagging the dog", but does this not go it one better in the aperture wagging the dog, since anatomically it is exactly like applying the term "vagina" to the vaginal orifice?

There perhaps is no reason why the term anal canal should not be used, if it is used as we would use the term vaginal canal, urethral canal or rectal canal, meaning here that the structure was the anus and the anal canal something within its limits, or at most synonymous with the anus; in that case we use the term anus instead of anal canal except as the reference applied to the lumen. However, with the term "anus" set apart as the slit, and with the term "anal canal" used to mean something entirely different, there is lack of uniformity as to just what the user of the term means. Some use it to apply to the lumen, some use it to indicate the thin structure inside the musculature of the terminal structure, some use it to mean all of the structure with the intrinsic muscle, and some include the external sphincter muscles. Some avoid this confusion by extending the rectum beyond its usually described lower limit to do away with the anus entirely, in which case the orifice would become the rectal orifice. Some extend the rectum to the outlet, dividing the rectum into two portions, one above the anorectal line, known as the rectal portion, and one below the line, known as the anal portion, taking the place of the anus.

Symington in 1888 quotes a description of the rectum in which the author speaks of three portions; the terminal portion agrees with what is more properly known as the intracaudal portion of the intestinal tract called the anus, as will be seen later. Symington deplores the use of the term "anus" to signify the slit or orifice, as leading to much confusion.

If we undertake to make a cooperating working structure of the caudal wall and the tract terminals which pass through it, such a conception is entirely unworkable. The pelvic floor and all of the tracts must be composed of understandable and accepted structure. Nowhere are the confusions and contradictions more apparent than in the work of authors who consider the anus an elliptical aperture connecting the terminal bowel cavity with the exterior.

If the anus is an aperture, a space, an orifice, an air or gas hole, then we could offer no just reason to apply the terms anus or anal to the canal, for anal canal means canal of the anus, and it cannot be the canal of the anus if the anus is just the exit hole. Does an aperture have levators, pruritis, a fissure and a fistula, papillitis, polyps and cancer? And in short, hasn't the anus received too much anatomic, physiologic, pathologic and scientific attention to be belittled by the imaginary anus of figurative speech, of colloquialism, of slang, which gives it no structure, no wall, no canal, no sphincter, no muscle, no levator ani except the accurately directed toe of an adversary's boot?

EMBRYOLOGY

It would seem appropriate that embryology should give testimony to clear up so wide a misunderstanding. "At about three weeks the entodermal cloaca descends and the ecto-

dermal cloaca or proctodeum invaginates, forming the 'anal pit'. The entodermal cloaca and the ectodermal cloaca approach each other, a portion of each forming the anal plate which is eventually absorbed, leaving a communication between the rectum and anus at the point marked by the anorectal line, the rectum extending upward in the abdomen, the anus extending downward through the thickness of the caudal wall or pelvic floor."

The above description is taken from Bacon. It is not in any sense to be considered obscure or controversial. It is accepted embryology. It demonstrates that antedating man's terminology, embryologic steps were taken to render this lower alimentary tract into two separate structures according to their development and purpose. It is important to interpret that "anus", "anal", "ano" and "ani" refer to that structure formed by the proctodeum or have relations to it.

RÉSUMÉ OF RELATIONS

1. The proctodeum, from two Greek words meaning anus on the way, invaginates to the anorectal or pectinate line, the upward limitation of the anus, admitted by almost all authors in their confused argument.
2. The levatores ani surround the upper end of this structure developed from the proctodeum, on a level with the anorectal line.
3. The external sphincter ani subcutaneous and superficialis surround the structure which arises from the proctodeum at its caudal end.
4. The caudal section of the intestinal tract then runs from the anorectal line to the lower orifice of this tract and is admitted by nearly all authors as the anus, for they examine the anus with the anoscope and proctoscope and describe what they see at the anorectal line and anorectal pathology.
5. Under diseases of the anus, many diseased conditions are described and treated that lie much higher than the orifice and as high as the anorectal line, and ano here, as always, refers to anus.
6. We have fissure in ano, fistulas in ano, ulcers in ano. These all attack the structures of the anus and not the orifice. None speak of a fissure of the aperture, but might speak of fissures at the aperture, or orifice of the anus.
7. The attention given the structure of the anus, the muscles manipulating the anus, the fescias connecting with and surrounding the anus, the snug attachment of the pelvic floor structure to and around the anus, the arteries, veins and lymphatics supplying the anus, would indicate that the scientific, anatomic, physiologic and pathologic anus is of considerable importance not covered by the aperture or orifice theory of the anus.
8. The definition of the anus given in many text books and lexicons as the lower aperture of the intestinal tract, relates to the figurative colloquial anus that has no scientific rating.

ANATOMY AND RELATIONS OF THE ANUS

Inasmuch as literature lacks an anatomic description of the anus, it seems desirable to include one here. Numerous index references to anatomy of the anus are disappointing in that they lead one to an anatomic description of the rectum, and at times to a confusion of the anal canal.

The anus, the lower section of the intestinal tract, is composed embryologically of an invagination of the ectoderm and called the proctodeum. In its developed stage it consists of a tubal structure of modified skin and musculature composed of two layers. An inner circular layer is continuous with that found in the rectum and increases as the rectum approaches the anus; as the anus is reached, this layer of musculature is greatly thickened and becomes the intrinsic or internal sphincter ani. An outer longitudinal layer of musculature is also continuous with that found in the wall of the rectum and continues down over the greater portion of the length of the anus and decussates with the musculature and fibrous tissue of the external sphincter outside the anal wall. The lining structure is skin and modified skin, becoming more mucous membrane-like as it approaches the anorectal line.

The anus has a group of extrinsic muscles, named because of their action upon the anus. They are made up of striated muscle fibers somewhat coarser than the nonstriated fibers in the anal wall, and some of them have other functions than the reputed functions implied by their name. Beside the internal sphincter found in the wall of the anus, which many locate in and some around the anal canal, we have the extrinsic sphincter group recognized

by all writers, but by some as one muscle, by others as one divided into an elliptic portion running from the coccyx to the central muscular attachment area in front of the anus, and a deeper circular portion whose fibers encircle the lower two fifths of the anus and overlap the intrinsic internal sphincter ani. This *extrinsic external sphincter ani* system of muscles is known more critically as the sphincter ani externus subcutaneous, the sphincter ani externus superficialis and the sphincter ani externus profundis. The last consists of the circular muscle fibers that encircle the lower two fifths of the wall of the anus and reach and overlap the lower end of the thickened circular fibers known as the sphincter ani internus in the anal wall. Some authorities have located this external sphincter in the anal wall, but this is not supported. At the junction of these muscles, where the external sphincter slightly overlaps the internal muscle, is a circular white line known as the white line of Hilton, called by Hibshman the intersphincteric line. These sphincter muscles have coccygeal attachment behind and attachment to the superficial transverse perineal muscle and the constrictor vagina in front. This sphincterian muscle has in addition to sphincter control an appreciable amount of supporting function. While no one could fail to appreciate the full importance of the structure of the anus and sphincter and supporting function of this lower musculofascial structure, the occasional case of imperforate anus teaches us the importance of the aperture or orifice not, however, as the anus but as the orifice of the anus.

If we now follow the anus upward about 3 cm., we find another muscle important to the support of the anus (like the external sphincter not a part of the anus), known as the levator ani. Its wide range of function is not entirely recognized in its name; however, its name implies that the anus was recognized as extending as high as the encircling levator ani with its extensive pelvic wall attachment and its cone-shaped or hammock-like descent to the anorectal junction, the lower attachment of the muscle. If, as some writers believe, the rectum continues through the musculofascial plate of the levator muscle and on to the anus as an orifice, then there was a serious mistake in giving this muscle the name which under those circumstances would be so unwarranted, the appropriate name under those conditions being levator recti. If one doubts the importance of the levator ani as an anus lifter, let him study those cases in which for one or many reasons the anus has become loosened from the levator ani muscle, yet in which the sphincter holds as a sphincter, in which the anus is dropping away from the levator ani, but in which the anus and perineal structures in cone formation with the anal orifice are hanging 1½–2½ in. lower than normal and ready, if the sphincters fail, to fall into anorectal herniation, the incomplete herniation having already taken place into the caudal wall but not yet through the sphincter layers, much as a hernia might bulge the inguinal canal but not yet having passed the external ring.

The rectum pouch is above the pelvic floor and is partly sphincteredby the valves of Houston and the grasp of the sphincter recti or pubo rectalis muscle. The anus is a narrow tube which extends downward and backward from the encircling levator ani grasp, as a carrying tube, and ends at the anal orifice. This kind of an anus is definite, requires no invented anal canal as a makeshift and accounts well for the recognition given it by anatomists, physiologists, pathologists and therapeutists.

Numerous observers have not only been content to apply the term "anus" to a structureless hole, but have failed to consider the proper relations of the real anus to its surrounding structures. These relations are no less important to an understanding of the function and support of the anus and its neighboring relations than is a thorough study of its own construction. It is important to note that in all anatomic, pathologic and surgical dealings with the lower intestinal tract, the anus is encountered in relation with the vagina below the pelvic floor, while the rectum is encountered above the pelvic floor.

THE MUSCULOFASCIAL CAUDAL WALL

The pelvic floor or caudal wall is an eight-layered structure composed of three layers of

muscle and five layers of fascia, reenforced by skin and closely knit together for support. The three tract terminals mentioned before traverse the 2½–3 cm. of thickness of this musculofascial structure and furnish an additional need for interweaving of these muscles and fascias, also the need of musculofascial interweaving of these walls with the walls of the viscera for the support of the latter, making the abdominal wall and visceral terminal seem like one structure fashioned for support and visceral function control. While a recognition of this solidarity of abdominal wall and visceral terminal union is highly desirable, yet it is equally important to visualize that this integrity consists of the proper union of two different structures, one the abdominal wall and the other the traversing visceral structures—one the supporting structure and the other the structure to be supported; the one the fixed abdominal wall, the other the mobilizing protruding structure. While blending and weaving together seems quite complete, one structure *never* becomes the other. The wall remains the wall, and the viscera are ready, at all times, to pass a defective wall to result in herniation. This indicates that a bulging of one visceral structure into another is not a herniation. A herniation occurs when a visceral structure or a combination of visceral structure passes *into or through* some defective abdominal wall. Hernia is never a viscera-to-viscera relation, but is always a viscera-to-abdominal-wall relation. The defective wall is the fixed landmark for judging herniation, not the "introitus vulvae" or the "introitus vaginae" or the "hiatus genitalis" or the "hiatus intestinalis" or the "outer world." These are subject to considerable mobility and do not create the true ring of a hernia. The abdominal wall defect furnishes the opportunity and the remaining wall structures furnish the ring.

As the musculofascial wall is considerably cephalad to the "external world" or the "introitus vulvae" or any of the other landmarks mentioned, the oncoming viscera are in herniation considerably before these erroneous and movable false landmarks are reached. If the complete coverage of the lower abdominal opening and the higher or more cephalad location of the musculofascial closure are remembered, it will be seen that any visceral structure that normally lies within the musculofascial structure and becomes loosened and mobilized to protrude *and any intra-abdominal structure that mobilizes into or through the wall is herniated structure.* In other words, the wall being 2½–3 cm. thick, if the anorectal tube should mobilize 2½–3 cm., the anus would be outside the lower limit of the musculofascial wall, which is the lower surface of the sphincter ani muscle, and 2½–3 cm. of the rectum would mobilize into the musculofascial ring. This would mean that 5–6 cm. of the anorectal tube had entered into herniation, half within the wall and half protruding outside the wall. Because the anus is attached to the skin just outside the levator ani muscle, the gut instead of mobilizing in a straight line is forced to double back upon itself, leaving a double thickness of gut of half of its protruding length, a distance of 1¼–1½ cm. of double protrusion, below the sphincter muscle. There is also 2½–3 cm. of herniated rectal gut in the musculofascial canal, making 5–6 cm. of herniated anorectal tube, resulting by this mechanism in 1¼–1½ cm. of double protrusion.

If one doubts the herniation of the portion in the canal, let him remember that all of the herniated structure in an inguinal hernia may still lie in the inguinal canal. It will be seen then that a mobilized bowel in herniation herniates considerably *before* the hiatus intestinalis is reached. It is the passing of the single layer of bowel tube through the enlarged musculofascial canal that creates the anorectal hernia, formerly known as prolapse and procidentia of the bowel. It will also be seen that mobilization through the wall is herniation. The attachment of gut which makes it double in protrusion is not a part of the mechanism of hernia. The hernia has taken place above the doubling and above the ano-skin attachment. Likewise, if for some reason the anorectal tube should mobilize caudalward for, e.g., a distance of 9 cm., then the most caudal 3 cm. would change position from within the caudal wall to the outside; the second and third 3 cm.

would change from within the abdominal cavity to the outside; the fourth 3 cm. would change from within the abdominal cavity to within the caudal wall tube; 9 cm. of extrusion would require herniation of 12 cm., for the result would be 9 cm. of outside mass and 3 cm. of intra-abdominal intestine lying in the caudal wall.

When a proximal portion of bowel mobilizes into a more distal portion of bowel, a condition known as intussusception is created. If an intussusception either by close origin or marked mobilization reaches the rectal pouch and comes within reach of sight or palpation in rectal examination, it remains an intussusception and does not become a procidentia, for procidentia lacks etymologic indications to be applied to any such definite pathology. Procidentia means no more than a sign "Moved and left no address." Intussusception advertises its whereabouts. If further mobilization brings the intussusception into or through the musculofascial canal, it does not cease to be an intussusception, but becomes also a herniation—a herniated intussusception.

This complication is of such importance that neither condition may be ignored. This, however, is not a hernia by reason of passing through the rectum or anus, or anal orifice, but becomes a hernia by reason of passing through the musculofascial opening in the caudal wall, the musculofascial structure becoming the hernial ring. This will be difficult for some to believe, but those who are inclined to look upon the visceral terminal as the hernial ring are thinking of the sphincter ani as a part of the visceral structure, which it very distinctly is not. It is a part of the musculofascial caudal wall. The bowel-to-bowel relation is here one of intussusception. The bowel-and-lower-abdominal-wall relation here is one of bowel herniation, which does not readily take place without a defective pelvic floor wall.

Descensus, ptosis, falling and prolapsus are terms we apply to intra-abdominal conditions of lowered position. Hernia, breach, rupture and cele are terms which apply to abdominal contents protruding through a defective wall. Descensus, ptosis, prolapsus, etc., may create annoying, distressing or even very troublesome conditions, but when any one of these conditions goes so far as to pass through any one of the abdominal openings, the condition of herniation assumes such pathologic importance as to make the other conditions seem trivial.

When we have a condition of herniation, instead of its being a visceral condition alone, as prolapse implies, it must be visualized as:

(1) an impairment of the caudal abdominal wall primarily;
(2) the separation of tract terminalis from the supporting wall structures; and
(3) the injury to the viscera and the further wall impairment which this separation and herniation create.

Primarily there may be no fault in the herniating viscera; the fault may be almost entirely in the damage to the wall. When the anus, then the rectum and sigmoid colon herniate, there occur constriction of the tissue, obstructed circulation, impairment of function, that does damage to visceral tissue in protrusion, but this protruding tissue does great damage to the supporting walls. The following problems then arise:

1. How much is the wall damaged? How extensive the herniation?
2. Can the herniating mass be returned to usefulness or must the herniating structure, a ring of hemorrhoids, a ring of mucous membrane, a ring of anal tissue, a portion or all of the rectum, or more of the lower intestinal tract be removed?
3. What hernioplastic, anatomic, surgical measures must be carried out to restore the pelvic floor to a functioning supporting structure? Usually the musculofascial anorectal opening must be decreased in size.
4. However well the herniating wall is restored and however much of the herniating mass is removed, the retained end of the bowel must be attached to the pelvic floor and surrounded by the retained sphincter muscle.
5. The musculofascial pelvic floor ring should be brought down to functioning size and attached to the bowel as it passes through.

6. Genital tract herniation and urinary tract herniation may have to be considered at the same or different times.

It is important to remember that the pelvic floor and the peritoneum are normally not in contact, but have a wide space known as the spatium infraperitonealae, two or more inches wide, due to the uneven surface of the peritoneum over the viscera. This offers no change of construction of the pelvic floor. It is an interesting arrangement, which sets the pelvic floor or caudal wall and the lower peritoneal boundary apart, so that when the intra-abdominal pelvic organs are considered, there are some not surrounded by peritoneum, an important point in herniation.

The visceral structures of these three tracts that send terminals through the pelvic floor have the following four relations to their surroundings:

1. The extreme lower ends of the viscera unite with the skin outside the wall.

2. The portions of the different tracts lying within the caudal wall include part of the urethra, part of the lower end of the vagina, practically all of the anus and a slight amount of the rectum, all normally closely united.

3. Considerable portions of the urethra, bladder, most of the vagina and a small portion of the uterus and about one half of the rectum proceed through this spatium, and are therefore intra-abdominal but extraperitoneal (which all structures are technically) and also uncovered.

4. Covered by the outer surface of the peritoneum are a considerable portion of the bladder, a large portion of the uterus, a small portion of the vagina, about one half of the rectum and nearly all of each visceral tract higher up. This wide spatium below the peritoneum, filled with viscera without peritoneal covering, makes it very plain that these structures will herniate without peritoneal sac or covering when they find a vulnerable caudal wall, with the peritoneum following in more extensive cases. This is nevertheless a hernia, for an intra-abdominal viscera or a combination of structures have passed through a defective wall and come to the outside. This applies markedly to anorectal herniation. Let us not accept herniation with the erroneous concept that the hernia is caused by one viscera herniating into or through another. The hernia is formed by a visceral structure protruding *through* the musculofascial caudal wall. The introitus or hiatus genitalis is often taken as the measuring point for hernia, but in cases of this kind the introitus is not a fixed point at all; it is more of an uncharted area considerably below the musculofascial wall, which muscle must be passed as a test of herniation.

The herniation will produce such damage that time should be taken preoperatively for restoration of strength and local improvement of tissues in extensive cases, if the condition will permit delay. There is perhaps no one thing more important than keeping the tissues inside for improvement of swelling, healing of ulcers and restoration of local and general health. Cleansing enemas, penicillin and blood transfusions are helpful in addition to other indicated treatment. Vitamin deficiency may be present. It is desirable to employ gravity to keep the bowel inside, but frequent changes from side to side, and to the semi-sitting position to avoid hypostasis in the older, weakened patients should be made.

SUMMARY

1. The ectodermic origin, the proctodeum formation, the difference in lining, the extensive anatomic recognition, its provision for a passage and not sacculation for a holding pouch, its intrinsic and extrinsic sphincter muscles, the levator ani muscles providing for control and its scientific recognition warrant the acceptance of the tube from the orifice to the anorectal line as the *anus*.

2. The effort to substitute the orifice, or the rectum, or the anal portion of the rectum, or the canal of the anus, with the anus remaining at the orifice for a definite and terminal portion of the intestinal tract, creates an anomaly that leads to continuous contradiction and confusion.

3. The carefully developed and constructed pelvic floor for support of pelvic structures and tract terminals should be equally well understood by the proctologist, gynecologist and urologist, and perhaps we should include the enterologist; a bit of understanding of

its importance by the neurologist and psychiatrist would also be helpful.

4. The pelvic floor, composed of many muscles and fascias, performs its functions not so much by individual effort, as by the solidarity of the musculofascial caudal wall and by making the terminal structures part of itself.

5. The uninjured pelvic floor usually performs its function automatically and adequately.

6. The weakness of the pelvic floor structure is brought about by direct injury to individual structures, by primary and secondary breaking up of the solidarity and loosening the supporting structures from the structures to be supported.

7. Prolapse of structures is a movement of abdominal viscera within the abdomen and does not relate to the abdominal wall.

8. Hernia is an abdominal wall condition in which viscera protrude into or through the wall, and has no reference to the condition or position of intra-abdominal organs.

9. Herniating abdominal organs must be replaced or removed, but the correction of the abdominal wall defect is of primary importance.

10. The multiple hernias and "celes" are conveniently called *herniosis* and *celeosis*, which are much more descriptive and correct terms than prolapse or procidentia.

11. The repair of anal and rectal herniation should take into consideration that there is a better sphincter than the silver wire of Thiersch, and a better levator than an intestinal rope running from the pelvic floor to some site of pexy, and a better narrowing than mucous cauterization, which substitutes a rectal stricture for injured but reparable muscles.

12. Some methods of repair may appear better than others, yet herniation of inches to feet of bowel may be so complicated that any method giving good results should not be ignored.

13. Many gynecologic and urologic conditions have their etiology in pelvic floor impairment, and I wish to emphasize that proctologic conditions have this same etiologic and therapeutic relation.

SOMMAIRE

1. L'origine ectodermique, la formation proctodermique, la différence de revêtement, la fonction de passage et non de réservoir pour les matières fécales, les sphincters interne et externe, et les muscles levateurs de l'anus qui fournissent le contrôle justifient la designation d'*anus* au tube qui s'étand de l'orifice anal à la ligne ano-rectale.

2. Les efforts de remplacer ou de substituer l'orifice, le rectum ou la portion anale du rectum tout en conservant à le rôle d'orifice de la portion definitive et terminale du trajet intestinal créent une anomalie qui engendre une contradiction et une confusion constante.

3. Le développement et la construction soignés du plancher pelvien et de seis trajets terminaux doivent être bien compris et bien étudiés par les proctologistes, par les gynécologues, par les urologistes et par les enterologistes. Il importe aussi que les neurologistes et les psychiatres se familiarent avec l'anatomie et la physiologie de la région pelvienne.

4. Le plancher pelvien, composé de muscles et de fascias, fonctionne pas tant par effort individuel mais plutôt par la solidarite du mur musculo-fascial caudal et par son englobement des structures terminales de la région.

5. Le plancher pelvien indemne ordinairement fonctionne automatiquement et suffisamment.

6. La faiblesse du plancher pelvienne est due à des traumatismes directs d'un ou de plusieurs de ses éléments constitutifs au brisement primaire ou secondáire de la solidarité et du détachement des éléments supportants.

7. Le prolapsus d'organes est un mouvement de viscères abdominaux dans la cavité abdominale et n'a aucun rapport avec la paroi abdominale.

8. La hernie est une condition de la paroi abdominale. Dans cet état, les viscères pénètrent dans la paroi abdominale du s'échappent de la cavité abdominale. La hernie n'a aucun rapport à l'état ou la position d'organes intra-abdominaux.

9. Les organes herniés doivent être remplacés ou enlevés. Dans ces cas, la correction du défaut de la paroi abdominale est d'une importance primordiale.

10. Les hernies multiples ou "cèles" qu'on désigne commodément "herniose" ou "coeliose." Ces deux désignations sont plus descriptives et plus correctes que prolapsus ou procidentia.

11. Pour la réparation des hernies anales et des hernies rectales, on doit prendre en considération qu'il y a un meilleur sphincter que le fil d'argent de Thiersch, un meilleur élévateur qu'une corde intestinale partant du plancher pelvien a un sit quel conque de "pexie" et un meilleur retrécissement qu'une cautérisation de la muqueuse qui substitue une stricture rectale à des muscles blesses mais réparables.

12. De certaines méthodes donnent de meilleurs résultats que d'autres. La herniation de pouces ou de pieds d'anses intestinales est si compliquée que n'importe qu'elle méthode que donne de bons résultats doit être étudiée.

13. Beaucoup d'états gynécologiques et urologiques ont leur étiocologie dans un affaiblessement ou ébralement des plancher pelvien. Je tiens à affirmer que beaucoup de conditions proctologiques ont les mêmes rapports étiologiques et thérapeutiques.

SOMMARIO

1. L' origine ettodormica, la formazione prottodermica la differenza della fodera, la estensiva recognizione anatomica, la sua provisione per un passaggio e non per la formazione di una borsa per contenere, i suoi intrinseci ed estrinseci sphincter muscoli, il levator ed i muscoli che provvedono per il controllo e la sua recognizione scientifica autorizza l' accettazione del tubo dall' orificio alla linea anorettale come l' ano.

2. Lo sforzo per sostituere l' orificio o il rectum, o la porzione anale del rectum, o il canale dell' ano con l' ano rimanente all' orifizio per una definita a terminale portione del tratto intestinale, crea una anomalia che conduce a continue contradizioni e confusione.

3. La base pelvica, attentamente sviluppata per il sostegno delle strutture pelviche, ed il tratto terminale dovrebbero essere ugulamente capiti dal prottotogista, dal ginecologista e dal urologista, e forse dovremmo includere l' enterologista; un po' di comprensione da parte del neurologista e dello psichiatra sarebbe pure di aiuto.

4. La case pelvica, composta di molti muscoli e fasce, funziona non solo per sforzo individuale, ma per la solidarieta della porete musculo fasciale caudale e facendo proprie le strutture terminali.

5. La base pelvica, se in buone condizioni, funziona automaticamente ed efficientemente.

6. La debolezza della struttura della base pelvica e prodotta da diretta lesione a particolari strutture, da primarie e secondarie rotture e staccando le strutture di sostegno dalle strutture che debbono essere sostenute.

7. Il prolasso di strutture e un movimento delle viscere addominali dentro l' addome e non ha relazione con la parete addominale.

8. Ernia a una condizione della parete addominale nella quale le viscere spingono dentro o attraverso la pare te e non ha relazione alla condizione o posizione degli organi intra-addominali.

9. Gli organi addominali erniati debbono essere surrogati o rimossi, ma la correzione del difetto della parete addominale e di primaria importanza.

10. Le ernie multiple e le "celes" sono convenientemente chiamate *herniosis* e *celeosis*. Questi termini sono piu de scrittivi che prolapse e procidentia.

11. La riparazione dell' ernia anale e rettale dovrebbe tener conto del fatto che vi e un migliore sphincter del filo d' argento di Thiersch ed un miglior *levator* della corda intestinale dalla base pelvica a qualche sito di lega e un migliore stringente della cauterizzazione mucosa che sostituisce una stringimento rettale per museoli lesi ma reparabili.

12. Alcuni metodi di riparazione possono apparire migliore di altri, pure l' ernia da pollici a piedi dell' intestino puo essere cosi complicata che qualunque metodo che da buoni risultati non dovrebbe essere ignorato.

13. Molte condizioni geneologiche ed urologiche hanno la loro etiologia in deteriorazione della base pelvica, ed io voglio insistere che condizioni prottologiche hanno questa stessa relazione etiologica e terapeutica.

SUMARIO

1. El origen ectodérmico, la formación proctodéumica, la diferencia de alineación, el

extensivo reconocimiento anatómico, su provisión para un pasaje y no saculación por una bolsa sujeta, los intrínsecos y extrínsecos músculos del esfínter, el músculo elevador y los músculos provistos para el control y su reconocimiento científico aseguran la aceptación en función de ano, del tubo que va desde el orificio hasta la línea anorrectal.

2. El esfuerzo para sustituir el orificio, o el recto, o la porción anal del recto, o el canal del ano, con el ano que permanece en el orificio para una precisa y final porción de la región intestinal, crea una anomalía que conduce a contínuas contradicciones y confusión.

3. El suelo pélvico, cuidadosamente desarrollado y construído para sostener las estructuras de la pelvis y las terminales de la región deberán ser tomadas en cuenta por los proctólogos, ginecólogos y urólogos, y quizá también debería incluirse a los enterólogos; un poco de comprensión sobre la importancia de dichos extremos, por parte de neurólogos y psiquiatras, sería también provechoso.

4. El suelo pélvico, compuesto por muchos músculos y aponeurosis, llena sus funciones, no tanto por el esfuerzo individual como por la solidaridad de la pared caudal músculo-aponeurosis y porque hace formar parte de si mismo a las estructuras terminales.

5. El suelo pélvico ileso ejecuta normalmente sus funciones, de modo automático y adecuado.

6. La debilidad de la estructura del suelo pélvico es debida a la lesión directa de las estructuras individuales, por la fractura primaria y secundaria de la solidaridad y el aflojamiento de las estructuras de apoyo desde las estructuras que han de soportarse.

7. El prolapso de las estructuras es un movimiento de la víscera abdominal dentro del abdomen y no relacionado con la pared abdominal.

8. La hernia es una condición de la pared abdominal en la cual la víscera empuja dentro o a través de la pared y no se diferencia de la condición o posición de los órganos intra-abdominales.

9. Los órganos abdominales herniados deben reemplazarse o removerse, pero la corrección del defecto de la pared abdominal es de primaria importancia.

10. Las múltiples hernias o *celes* son llamadas apropiadamente *herniosis* y *celeosis*, términos mucho más descriptivos y correctos que prolapsa o procidentia.

11. Para repara la hernia anal y rectal deberá tomarse en consideración que existe un mejor esfínter que el alambre de plata de Thiersch y un músculo elevador mejor que una cuerda intestinal que corre desde el suelo pélvico hasta cierto lugar del pexis, y una mejor estrechez que la cauterización mucosa, la que sustituye la estructur rectal por músculos lesionados pero reparables.

12. Algunos métodos de reparación pueden parecer mejores que otros, sin embargo la herniación de pulgados, y hasta pies, de intestino pueden ser tan complicada que debe conocerse cualquier método que de buen resultado.

13. Muchas condiciones genecológicas y urológicas deben su etiología a un suelo pélvico deteriorado y deseo poner de relieve que las condiciones protológicas tienen esta misma relación etiológica y terapéutica.

PYLORIC OBSTRUCTION

(Continued from page 307)

осторожного хирургического соображения.

5. С правильным до- и после-оперативным режимом, более безопасной анэстезной и бóльшим вниманием к оперативной методике эти более пожилые больные могут быть оперированы с очень низкой смертностью.
6. Предпочитается субтотальная желудочная резекция. Эта операция была произведена в большинстве наших случаев и дала очень низкую смертность.

Active Treatment of Acute Thrombophlebitis of Varicose Veins

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IT is an established fact that bedrest is apt to produce phlebitis by slowing down the venous circulation. Fischer [1] was the first to draw the therapeutic conclusions from this by advocating ambulatory treatment in all cases of acute phlebitis of the lower extremities, using compressive bandages. Although his work appeared 37 years ago, and although the danger of bedrest has been repeatedly stressed in recent publications, bedrest treatment is still adhered to by many physicians.

The main obstacle which in many cases prevents ambulation is pain. This problem can be solved in several ways:

1. Fisher showed that compressive bandages were apt to relieve pain greatly.

2. McPheeters [2] demonstrated that a rubber sponge, applied over the inflamed area and incorporated into the supportive bandage, reduces edema and relieves pain.

3. A rubber band (an elastic garter of ½ in. width), placed above the inflamed area helps to reduce the hydrostatic pressure, and thus increases the effect of the muscular contractions to reduce the intravenous pressure and, therefore, facilitates evacuation of the blood in the saphenous veins into the deep veins. This is a practical utilization of the Perthes' test. It promotes the blood circulation and prevents new thrombi. (Orbach.[4])

In cases where the phlebitic process extends into the deep venous channels, a paravertebral block may be helpful. In cases where deep phlebothrombosis prevails, a ligation of the superficial femoral vein should be done.

4. It is remarkable how much pain and discomfort can be eliminated by evacuation of the endovenous blood clots and stagnant blood. In selected cases the clots can be removed through a stab incision, done under local anesthesia. The incision should be made at sites of maximal fluctuation. Here the blood clots are loosely attached to the wall, and can be massaged out with little trauma (Fig. 1).

The endovenous blood coagulum and the stagnant blood stand under great pressure when the patient is erect. This observation should be utilized in the operative evacuation of blood clots. The stab incisions should be done with the patient standing up. The coagulum and the stagnant blood escape very easily through the small incisions. Hardly any external pressure is necessary to initiate

Fig. 1.—Evacuation of intravascular thrombus and stagnant blood by stab incision, followed by supportive bandage and ambulation.

their escape through the incisions under the effect of the increased back pressure.

Large phlebitic areas have to be laid open by large incisions. Excision of veins should be avoided. The danger of creating large wound areas lies in the liberation of excessive thrombogenic agents. The wounds should be closed with only one or two situation sutures. No drainage is attempted. In febrile cases penicillin may be given. It is amazing how fast the incisions heal (Fig. 2).

5. In extensive and progressive cases high ligation of the saphenous vein and multiple ligations of unaffected vein sectors is recommended. These ligations may be done either openly or percutaneously, using a special ligation knife. The technic of percutaneous ligation is advocated in selected cases. (Orbach.[5])

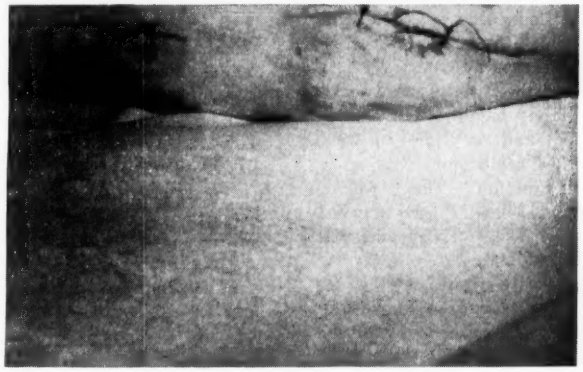

Fig. 2.—High ligation of saphenous vein at saphenofemoral junction. Evacuation of thrombi by long incisions. Patient ambulatory immediately after operation. Condition of wounds eight days after operation.

The purpose of these surgical measures is to reduce the hydrostatic pressure, eliminating large vein sinuses, and to prevent cephalad migration of the phlebitic process.

Heparin and dicoumarol should not be used in simple phlebitis and not in ambulatory cases. Their administration does not reduce the painful thrombi in size and, therefore, is not pain-relieving. Dicoumarol use requires daily prothrombin determinations; it has still to be considered as a hazardous drug.

CASE REPORTS

Case 1.—W. W., 58, foreman, was suffering from acute phlebitis of his lower leg for three weeks. When treatment was started on Oct. 10, 1944, there were Grade 4 varicose veins of the right lower leg extending towards the thigh nearly up to the fossa ovalis. Temperature was 100.2 F. The patient refused high ligation. Through stab incisions large thrombi were removed from inflamed varices of the lower leg. A supportive bandage was applied from the groin to the metatarsus, and the patient was advised to move around freely. The pain-relieving effect of this treatment was greatly appreciated, and he returned to work after 48 hours. The outlined treatment was repeated four times at weekly intervals. On Nov. 29, he was discharged as cured.

Case 2.—E.P., 60, was suffering from acute phlebitis for one and one-half weeks and was treated with bedrest and compresses. Treatment was started on May 20, 1945, and consisted in evacuation of thrombi through stab incisions and supportive bandages from the knee to the foot. She became ambulatory immediately. On May 29, high ligation of the saphena magna and multiple ligations and removal of thrombi through 3 in. long incisions were done. The patient was hospitalized for a few hours only. On June 22, she was discharged as cured.

Case 3.—A. K., 60, factory worker, had acute superficial thrombophlebitis of his right lower leg of two and one-half weeks' duration. Temperature was 99.8 F. The patient kept himself ambulatory by wearing an ace bandage. However, he could not work. Treatment was started on May 24, 1945. The thrombi were removed through four stab incisions. A large supportive bandage from groin to foot was applied. He was greatly relieved from pain and discomfort after 24 hours. He returned to work on May 26, two days after

treatment was started. On return to the office after seven days, the acute swelling of the thrombotic area was greatly reduced. The spread of the phlebitis was halted. From now on supportive bandages extended from the infrapatellar region to the metatarsal area only. A rubber band was worn around the thigh above the knee. The patient, feeling well, postponed surgical intervention until vacation. On July 2, high ligation and numerous low ligations by the open and by the percutaneous method were done under local anesthesia. The patient was discharged as cured on July 16.

Case 4.—K. R., 66, housewife, was suffering from painful thrombophlebitis of the left thigh and left leg. Temperature was 100.8 F. On account of the acuity and the rapid spread of the process she was immediately hospitalized. Penicillin therapy was started, and on June 16, 1945, high ligation was done. The thrombi reached up to the saphenofemoral junction. There was no thrombus in the vena femoralis. All thrombi were removed from the varices by large incisions. The wounds were approximated by one or two situation sutures. The patient could not be persuaded to leave the bed for 48 hours. During her bedrest, active foot and leg exercises were encouraged. She left the bed on the third postoperative day, walked 10 minutes every hour on the hour, and left the hospital on the fourth postoperative day. Figure 2 shows the operation wounds on the seventh postoperative day. The wounds did not show any inflammatory reactions. She was discharged from treatment on July 15, with the advice to return after six months for sclerotherapy. She was seen last in May, 1946. All varicose veins were obliterated, and there were no signs of recanalization in the area of the long scars. Sclerotherapy was not considered necessary at that time.

Case 5.—A. B., 59, housewife, had Grade 2 to Grade 3 varicose veins on both legs. For five days she had complained of severe pain, caused by acute superficial phlebitis of the right lower leg. Rapid spread cephalad was observed. Tenderness was present over Scarpa's triangle. She was hospitalized on June 24, 1945, with a temperature of 100.2 F. Under pentothal anesthesia high ligation of the saphenous vein, multiple percutaneous ligations with a special ligation knife and evacuation of the thrombi through multiple small incisions were done. A supportive bandage was applied from the groin to the foot. She was out of bed on June 26 and discharged from the hospital on July 2. She only used ½ gr. codeine postoperatively. On July 25, she was discharged as cured and advised to return for sclerotherapy after six months. She was seen again in April, 1946. There were three venous sacculations of medium caliber which subsequently were closed by sclerotherapy.

Case 6.—J. W., 42, druggist, showed Grade 4 varicose veins which were totally thrombosed and showed periphlebitic reactions. He had been treated elsewhere with an ace bandage. He worked throughout his illness. He was seen 31 days after onset. His temperature was subfebrile. Pain was considerable in the beginning, but it decreased in the last few days. However, the veins did not show any decrease in size. At the first visit a stab incision, and five days later, three stab incisions were made at the site of maximal fluctuation. A large amount of coagula was removed together with a great deal of black, tarry, stagnant blood. The blood escaped with such a presure that it spotted a white curtain five ft. away. The incisions were made in the standing position. The veins collapsed immediately, and pain dispeared completely.

The following is a résumé of 11 cases, in which painful thrombophlebitis developed after sclerotherapy of large varicosities. The onset of these reactions occurred 2–4 days after the injections. After 7–10 days, thrombi were removed through stab incisions (Fig. 3), made under local anesthesia with a narrow-bladed scalpel (Parker blade no. 11) at the site of maximal fluctuation. Both blood clots and thickened blood were removed. The patients experienced great relief immediately. The rate of recurrences did not increase after removal of postinjectional thrombi. Indeed, it appeared that the ultimate results after this procedure were better. This is explained by the fact that after removal of the thrombi the vein lumen is obliterated not by the thrombus formation and secondary organization, but by primary apposition and concretion of the chemically damaged intima. From this point of view the postinjectional saphenotomy and removal of excessive thrombi has to be considered an aid to sclerotherapy, streamlining the unchecked natural healing efforts.

SUMMARY

Bedrest has to be considered as an obsolete therapy of acute thrombophlebitis. Ambulatory treatment is the therapy of choice. Removal of thrombi either by stab incisions or large incisions shortens time of illness, prevents secondary embolism and is pain-relieving. Radical excision of inflamed veins is contraindicated because of the danger of liberation of thrombogenic agents in the blood stream.

In anology to the old surgical axiom "ubi pus ebi evacua," we should follow, in the therapy of the acute phlebitis of varicose veins, this rule "ubi coagulum ebi evacua."

Fig. 3.—Release of intravascular thrombi and stagnant blood by multiple stab incisions at site of maximal fluctuation, in case of excessive postinjectional phlebitic reaction.

To decrease the pathogenic hydrostatic pressure, the following measures are considered to be necessary: (1) supportive bandages; (2) elastic band around the extremity above the inflamed vein sector in Perthes-positive cases; and (3) high ligation of the saphenous vein at the fossa ovalis and multiple open or percutaneous ligations of vein sectors not yet affected.

Penicillin should be given in febrile cases caused by gram-positive cocci. Heparin and dicoumarol have no place in the therapy of the average case of acute superficial thrombophlebitis.

SOMMAIRE

Le repos au lit doit être abandonné comme traitement de la thrombophlébite aiguë. Le traitement ambulatoire est le traitement de choix. L'ablation des thrombus à l'aide d'incisions courtes ou longues abrège la durée de la maladie, empêche l'embolisme secondaire et atténue la douleur. L'excision radicale des veines enflammées est contre-indiquée, car elle entraîne de danger de libération d'agents thrombogéniques dans le système circulatoire. En analogie avec le vieil axiome chirurgical "ubi pus ebi evacua," nous devons dans le traitement des phlébites aiguës des veines variqueuses suivre cette règle "ubi coagulum ebi evacua."

Afin de diminuer la pression hydrostatique pathogénique, il est nécessaire de considérer les moyens suivants: (1) l'emploi des bandages supportants; (2) une bande élastique entourant l'extremité, audessus du secteur de la veine enflammée, dans les cas de Perthes-positif; (3) une haute ligature de la veine saphène à la fosse ovale et de multiples ligatures, ouvertes on percutanées, des veines avoisinautes encore indemnes.

On administrera de la pénicillin dans les cas fébriles dus à des cocci gram positifs. L'héparin et le découmarol n'ont aucune valeur dans le traitement des cas ordinaires de thrombo-phlébites superficielles aiguës.

SOMMARIO

Riposo in letto deve essere considerato come terapia assoluta della tromboflebite acuta. Trattamento ambulatorio e la terapia di scelta. Il rimuovere i trombi sia per piccola incisione o per larga incisione accorcia il tempo della

malattia, previene un altro embolismo e mitiga il dolore. Radicale eccisione delle vene infiammate non viene consigliata, dato il pericolo della liberazione di agenti trombogenici nel sangue.

In analogia del vecchio assioma chirurgico "ubi pus ebi evacua," noi dobbiamo seguire, nella terapia della flebite acuta delle vene varicose, questa legge, "ubi coagulum ebi evacua."

Per diminuire la pressione patogenica idrostatica, le seguenti misure sono considerate necessarie: (1) fascie di sostegno; (2) fascia elastica attorno l'estremita sopra il settore della vena infiammata nei casi positivi Perthes; e (3) legatura della vena safenosa alla fossa ovale e legature multiple della superficie delle vene non ancora affette.

Penicilina deve essere amministrata nei casi di febbre causata da cocci gram-positivi. Eparina e dicomarole non debbono essere amministrate nella terapia di casi generali di acuta tromboflebite superficiale.

SUMARIO

El reposo en la cama ha sido considerado como una terapéutica absoluta para la tromboflebitis aguda. La terapéutica ambulatoria es la terapéutica de preferencia. La remición del trombo, bien por incisiones de arma blanca o por grandes incisiones en cortos períodos de enfermedad, previene un embolismo secundario y es un sedante para el dolor. No se considera oportuna una exción radical de las venas inflamadas, debido al peligro de la liberación de los agentes trombogénicos en la circulación de la sangre.

Análogamente al viejo axioma quirúrgico "ubi pus ebi evacua", nosotros seguiremos, en la terapéutica de la flebitis aguda de las venas varicosas, la siguiente regla: "ubi coagulum ebi evacua."

Para hacer decrecer la presión hidrostática patogénica, se considera necesario seguir las siguientes medidas: (1) vendajes de soporte, (2) banda elástica alrededor de la extremidad, por la parte superior del sector enflamado de la vena, en los casos positivos de Perthes; y (3) ligazión superior de la vena superficial en la *fossa ovalis* y múltiples ligaciones abiertas o percutáneas de los sectores venosos no afectados todavía.

La penicilina debe administrarse en casos febriles causados por los cocos del positivo de Gram. En la terapéutica del caso tipo de la tromboflebitis superficial aguda, no tienen lugar el heparin y el dicumarin.

Свод

Лежание в постели является устарелой терапией острого тромбофлебита. Предпочитается амулаторное лечение. Удаление тромба вонзающим или более длинным надрезом укорачивает срок болезни, предотвращает вторичный эмболизм и облегчает боль. Противопоказано радикальное иссечение воспаленных вен, так как освобожденные тромбогенные агенты могут попасть в кровяной ток.

Аналогично со старой хирургической аксиомой: "ubi pus ebi evacua" необходимо при терапии острого флебита варикозных вен следовать правилу: "ubi coagulum ebi evacua".

Для уменьшения патогенного гидростатического давления необходимо принять следующие меры: 1. Бинтовой супорт; 2. в Perthes — положительных случаях, эластичный бинт вокруг конечности и выше сектора венозного воспаления; 3. высокая перевязка vena saphena возле fassa ovalis и множественные открытые, или через кожу, перевязки венных секторов, которые еще не поражены.

Пенициллин нужно дать при лихорадочных случаях, причиненных Грам-позитивными кокками. Гепарин и дикоумарол не имеет места в терапии обыкновенного случая поверхностного тромбофлебита.

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Hypernephroma of the Thyroid Gland

With a Case Report

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HYPERNEPHROMA of the thyroid is apparently a very rare condition. For example, no mention of it has been made in several recent and popular text books on surgery. In three texts devoted exclusively to diseases of the thyroid it is discussed in only one, and then dismissed in a sentence or two. Among the 1,702 thyroidectomies done by me, there were 18 cases of carcinoma, 1 of sarcoma and 1 of hypernephroma. Only 1 case of hypernephroma was found among 10,000 thyroidectomies at the DeCourcey Clinic, and only 3 were found in 50,000 goiter operations at the Mayo Clinic. It seems therefore appropriate to cite briefly those cases already reported and to add my case to them. An extensive search of the literature has revealed only 16 cases up to this date.

Klose [1] cites a case reported by Lubarsch in 1894; it was that of a man of 55 with negative history and no thyroid symptoms. Autopsy showed extensive metastasis in the thyroid and the abdomen.

Also cited by Klose [1] is a case reported in 1904 by Kodzubowski; in this case autopsy findings only were given. A hypernephroma the size of a child's head was found in the left kidney, and metastases were present in the right kidney, heart and thyroid, with a compression of the trachea. Unfortunately no clinical history of the case was given.

In 1912 a case was reported by Pistocchi.[2] Bilateral hypernephromas were present with metastasis in both lobes of the thyroid. Pistocchi also mentions a case reported by Winkler as "the only one mentioned in the latter's bibliography," but gives no details.

One case was reported in 1912 by Barjon and Janitat.[3] This was a woman, 75, who sought relief of palpitation, dyspnea and cachexia of a year's duration. She had a goiter which had been increasing in size for four or five years, and which had been very toxic for a year past. Clinical diagnosis of carcinoma of the thyroid with metastases in the lungs was made. Autopsy showed an enormous hypernephroma of the right kidney. While clinically this case was a thyroid metastasis, there is no evidence that this was proven by microscopic examination, either before or after autopsy.

De Quervain [4] also mentioned a case of hypernephroma as the only one he had observed. No particulars were given, except that it resembled a primary carcinoma

Klose [1] in 1925 reported a case in a carpenter, 44 years old, in whom typical thyroid toxicity followed development of hypernephroma. The patient had had a slight goiter since childhood, but in the previous two years he had developed a lump in the neck which gradually increased in size and was followed by severe thyroid toxicity. Later he had blood in the urine and stools. Autopsy revealed hypernephroma of the left kidney with metastasis in the thyroid. Later Klose reported a second case in a man of 53, with a negative medical history up to the time of examination. He had had a pain in the right hip and hematuria for the previous nine weeks, and there was a palpable tumor in the right hypochondrium. The right kidney showed no function, and pneumoperitoneum revealed a greatly enlarged right kidney, proved later to be hypernephroma. Autopsy showed extensive metastases in the lungs and thyroid. The findings were a surprise, as the patient had previously shown no symptoms referable to the lungs or thyroid.

Another case of hypernephroma with thyroid hyperactivity was reported in 1925 by Kaufman and Cashin.[5] The patient was a

woman of 68, who had had a walnut-sized symptomless adenoma for 20 years. She exhibited hematuria from its onset until her death six and one-half months later. During the last two months the basal metabolism became greatly increased and with it came nervousness, anxiety, tachycardia and tremor. She was not benefited by iodine or digitalis therapy. Two months before her death the hypernephroma was successfully removed, but following this the thyroid toxicity became rapidly worse, and was the final cause of death. The thyroid was not removed, and therefore it was not proven that the thyroid tumor was hypernephroma. Its symptomless presence for 20 years before toxicity developed would be in keeping with the clinical picture of a nonmalignant adenoma. The authors were of the opinion that destruction of the adrenal tissue caused hyperactivity of the thyroid.

Kalodny [6] in 1926 reported a case in a woman of 58, who had had a goiter since the age of 15. No trouble was reported until May, 1926, when a typical picture of exophthalmic goiter developed. In August of that year the basal metabolic rate was +80. Subtotal thyroidectomy was done in September, 1926, both lobes showing multiple nodules of hypernephroma. Even a most careful examination of the patient with x-ray study of the skeletal structures did not reveal a primary tumor, nor did the patient show any evidence of recurrence 11 months later.

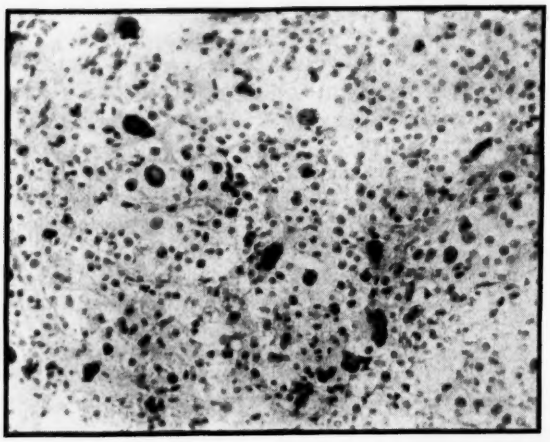

Fig. 1 *(left)*.—Photomicrograph from thyroid tumor.

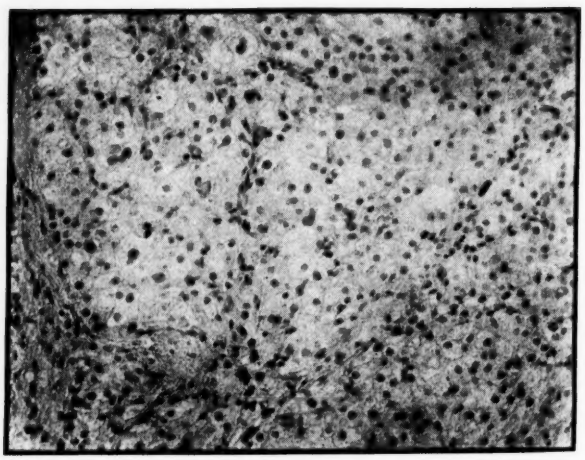

Fig. 2 *(right)*.—Photomicrograph from hypernephroma of left kidney.

In 1934 Pemberton and Bennett [7] reported two cases. The first was a man of 71, who entered the clinic because of urologic symptoms due to an enlarged prostate. His condition was so bad that operation was delayed for five months for preparatory treatment, during which time the man developed fulness in the neck and choking. Before this he had had a symptomless goiter for two years. A thyroidectomy was performed and hypernephroma diagnosed by the pathologist. The growth by this time had invaded the trachea. Autopsy revealed hypernephroma of both kidneys with many abdominal metastases. The second case was a woman, 38, who complained of a rather rapidly increasing goiter over a period of two years. Here, although basal metabolic rate was normal, hypernephroma was diagnosed after removal of the left lobe of the thyroid. Hypernephroma of the right kidney was then diagnosed by urograms, and nephrectomy followed with recovery of the patient.

In 1936 H'Doubler [8] reported two cases. The first was a farmer, 59. He developed goiter symptoms and thyroidectomy was performed, at which time hypernephroma was diagnosed by the pathologist. It was then learned that hematuria had been present at times for several months. He was later studied by urograms, and diagnosis of a left renal tumor made. Palpable abdominal masses and ascites developed, presumably the cause of death, although permission for autopsy could not be secured. The second case was a woman, 73, who for three years prior to examination had had a nodular goiter. Marked toxicity developed, and a thyroidectomy was done. The removed right lobe showed hypernephroma. Four years later the patient died. Autopsy showed hypernephroma of the left kidney and many metastases.

In 1937 Weiskittel [9] reported one case of metastatic hypernephroma in a man aged 60. Hematuria had been observed, and x-ray studies showed a right renal tumor, after removal identified as hypernephroma. Seven years later he rather rapidly developed an enlarged thyroid with moderate toxicity. Carcinoma of the thyroid was diagnosed clinically but after removal it proved to be a hypernephroma.

In 1945 Long and Black [10] reported the third case ever found at the Mayo Clinic. This was a man of 50, who came to the Clinic because of urologic symptoms. A renal tumor was diagnosed and nephrectomy done in 1935. The pathologic diagnosis was hypernephroma. Nine years later the patient returned because of a goiter which had developed during the previous year. Thyroidectomy was done and the removed tissue showed hypernephroma.

CASE REPORT

A man, 38, married and an oil-truck driver by occupation, entered the hospital in November, 1929, stating that he came to have his thyroid removed, because he had been told that it was toxic and that his metabolism reading was +21. For the previous 11 months he had complained of exhaustion, which had been much worse for the month before he came to the hospital. During the 11 months there had been irregular attacks of epigastric pain and occasional vomiting. Appetite was poor, and he had lost about 12 lb. in weight. Choking, accompanied by temporary impairment of the voice, had been observed for a month, together with nervousness, restlessness and insomnia. Orbital headache and dyspnea of effort had been mildly progressive during this time. Previous diseases were influenza, measles and an occasional sore throat.

One year before admission he had been accidentally struck over the right side of the larynx by a gasoline pump handle. The voice became hoarse at once, and this hoarseness had been noted at times ever since. About two months after the injury a lump developed at the site of the blow. Its size fluctuated but on the whole slowly increased. His father had died at 74 of a stroke and his mother at 57 of breast cancer. Two brothers and two sisters were living and well; one sister had died of pulmonary tuberculosis at the age of 29.

Examination showed a rather robust man who did not appear very ill. There was no exophthalmos and heart and lungs were normal. However, chronic hypertrophic tonsilitis was present, and there was a nodular goiter about the size of a hen's egg. The enlargement was confined entirely to the right side, and, while firmly fixed to the thyroid cartilage, the overlying tissues were uninvolved. There was no pulsation in the gland. Pulse, temperature and respiration readings were

normal. The abdomen showed no undue tenderness at any point, though it was somewhat firm. Neither kidney was palpable nor tender, and no palpable masses were found anywhere in the abdomen. The genital system was normal. The skin was rather dry and of normal color. There was no finger tremor, and the knee jerks were normal, as was the voice.

Laryngoscopic examination by a laryngologist showed the right cord inactive. The supraglottic space over the right cord contained an oval, smooth and noninflammatory tumor filling the space and obscuring the right cord. There was no ulceration. The arytenoid cartilage on the right side was involved.

Blood examination showed a hemoglobin reading of 78 per cent. There were 4,650,000 erythrocytes and 8,200 leukocytes with 24 per cent lymphocytes. Eosinophils made up 7 per cent. The urine was alkaline with a specific gravity of 1.021. A trace of albumin, an occasional fine granular cast and many amorphous phosphates were present. No blood was found. The basal metabolic rate five days after admission was +5.34.

On Nov. 14, 1929, a right lobectomy was done. Preliminary medication consisted of morphine and scopolamine, and novocaine ½ of 1 per cent was used as the anesthetic agent. This had to be supplemented by a light ether anesthesia for a few minutes while the tumor was being freed from the thyroid cartilage.

An egg-sized tumor was found at the upper pole of the right lobe of the thyroid. Externally this was distinctly encapsulated, but internally the tumor penetrated the capsule and also the thyroid cartilage to the mucous membrane over an area about ½ x 1 cm.; being firmly adherent, it was removed with difficulty. On section the whole tumor was found to be made up of soft mushy material having the gross appearance of degenerated adenoma. Outside the capsule the thyroid tissue was apparently normal, and the left lobe was normal. The patient was returned to his room with a pulse of 100, and in satisfactory condition.

Eight hours after operation the pulse was 135 and the temperature 105.8 F. rectally. The respiratory rate was 26. (These readings were average for the next four days except for some remission on the third afternoon. The highest respiratory rate was 34.)

A few hours after operation the patient was overwhelmed with upper left abdominal pain and marked distension. He then volunteered for the first time that this same pain had occurred irregularly over the past two or three years. Each attack lasted from one to three days, and between attacks he was perfectly well. The pain was always in the upper left quadrant of the abdomen, was violent and at times accompanied by nausea and vomiting.

This being the first suggestion of a kidney involvement, a careful inquiry was made as to hematuria, but it appeared that he had never had this or any other symptom referable to the urinary tract. Another careful examination failed to detect any mass in the abdomen or any abnormal dulness on percussion of the chest. He was at this time too ill to be given x-ray examination.

The pain subsided two days after the onset, and with it went most of the abdominal distention. At this time, however, dulness became distinct over the lower left chest and many fine crepitant rales and bronchial breathing were elicited. On the second postoperative day, during a fit of coughing, a laryngeal fistula developed at the point where the tumor was removed, and this persisted until death.

On the fourth day after operation the pathologic report on the removed thyroid tissue was returned from Dr. A. S. Warthin and read as follows: "Thyroid tissue shows the picture of an old colloid goiter. Separated from the thyroid tissue by a thick capsule is a carcinoma with many bony trabeculae through it. An osteogenetic carcinoma infiltrating the vertebra. The neoplasm itself resembles a malignant hypernephroma, but this resemblance very frequently shows in carcinoma of the thyroid."

Five days after operation the patient died of, clinically, a left lobar pneumonia. The chief finding at autopsy was a tumor lying mesial to the left kidney, but not invading the kidney or ureter. This tumor was an oval mass, 13 x 20 cm., with its upper pole pushed up under the diaphragm to the level of the fifth rib, and its lower pole bound to the vertebral tissues by a firm pedicle about 3 cm. in diameter. The mass was smooth, encapsulated and closely bound to surrounding organs. It pushed the stomach to the left, the pancreas forward and the liver to the right.

On section the mass presented a variegated surface of necrotic yellowish tissue transversed by fibrous bands which divided it into lobules, some of which were hemorrhagic. There were few blood spaces in this tissue, and it was only close under the capsule that the material appeared living and cellular, and here the few nodules of tissue were of a yellowish opalescent color.

The postmortem diagnosis was hypernephroma of the left adrenal, which as such could not be found. Careful examination of the lungs, pleura,

heart, liver, spleen and intestines failed to show any metastatic nodules.

The left lung showed consolidation of the lower lobe, but all other lung tissue was crepitant throughout. The liver showed congestion only, and the gallbladder was normal. The stomach was normal but pushed to the left. The right kidney and ureter were normal.

The report of microscopic study of autopsy material was given by Dr. A. S. Warthin, as follows: *"Neoplasm:* malignant hypernephroma. *Lungs:* marked congestion and edema; early bronchopneumonia; scattered hemorrhages. *Spleen:* atrophy and chronic passive congestion. *Pancreas:* chronic interstitial pancreatitis. *Liver:* extreme nutmeg liver; atrophy; early hepatitis. *Kidneys:* marked atrophy and passive congestion; glomerulotubular nephritis. *Lymph nodes:* hyperplastic. *Right Adrenal:* atrophic; slight lipoidosis."

DISCUSSION

The case reported is one of mildly toxic goiter having the appearance of an adenoma. The mass, a metastasis from the hypernephroma, was firmly fixed to the larynx and was distinctly encapsulated except on its mesial aspect, where it had eroded through the thyroid cartilage, but had not penetrated the mucosa of the larynx, until two days after operation during a coughing spell. At first no symptoms were given to indicate trouble elsewhere than in the thyroid. Of the usual symptom-triad of hypernephroma: pain, hematuria and tumor, pain only was present, and this at first apparently was due to some digestive disturbance. The tumor could not be found clinically because it grew upward under the diaphragm, and hematuria was absent because it invaded neither the kidney nor the ureter.

The only metastasis was found in the thyroid, and here only in the previously injured lobe. This observation would seem to confirm the suggestion of Klose and Pistocchi, that metastasis occurs in the thyroid only after its high resistance has been broken down.

Including this report, there are now recorded only 16 cases. Some of these are simply mentioned, and no clinical history or other particulars are given. The ages of these patients were found to be from 38 to 70, average 53.7, for males; and from 35 to 75, average 60.7, for females. There were seven males and six females, with sex not stated in three reports. The left lobe was involved in one case; the right lobe in five; both lobes in three and location not stated in seven. Thyroid toxicity was severe in six cases; mild or nontoxic in five; and not stated in five. Trauma was not mentioned in any except my case.

The left kidney was the site of the hypernephroma in three cases; the right in three; both kidneys in two and not stated in eight. In four cases the urologic symptoms appeared first, while the thyroid symptoms came first in five cases; this point was not mentioned in five cases. There were no urologic symptoms prior to thyroidectomy in two cases. One of these was diagnosed only by x-ray studies and the other by autopsy.

The location of metastases was in six cases found in the thyroid only. In four cases they were also found elsewhere. In six cases, no mention was made of this point.

These cases are too few to warrant any final conclusions as to the relation of suprarenal disturbance to thyroid toxicity, as the evidence is about equal for and against this point. However, impairment of the thyroid by disease or injury does seem to be a factor in the localization of metastases in this gland.

SUMMARY

A case report is presented in detail, and the 15 cases found in the literature after extensive search are reviewed to find the relation of suprarenal disturbance to thyroid toxicity. The cases are too few to come to final conclusions, as the evidence is about equal for and against this point. However, impairment of the thyroid by disease or injury does seem to be a factor in the localization of metastases in this gland.

SOMMAIRE

Un cas est rapporté en détail. L'auteur fait une revue de 15 cas trouvés après recherches assidues dans la littérature. Il a essayé de trouver le rapport qui peut exister entre les troubles rénaux et la toxicité thyroïde. Les cas ne sont pas assez nombreux pour pouvoir formuler des conclusions finales car l'évidence est contradictoires. Néanmoins, les troubles

de la glande thyroïde, determinés soit par traumatisme, fait par maladies ne paraissent pas être un facteur dans la localisation de metastases dans cette glande.

SOMMARIO

Una relazione viene presentata in dettagli ed i 15 case trovati vella letteratura dopo estensive ricerche vengono passati in rivista per trovare la relazione del disturbo suprarenale e l'avvelenamento prodoto dalla tiroide. I casi sono troppo pochi per venire a conclusioni finali, dato che l'evidenza e guasi uquale pro e contro questo punto. Pero deteriorazione della tiroide per malattia o lesione sembra essere un fattore nella localizazione della metastasi in questa glandula.

SUMARIO

Se presenta en detalle el informe de un caso y se revisan 15 casos encontrados en la literatura después de una intensiva investigación, para hallar la relación entre el desorden suprarenal y la toxicidad tiroidea. Los casos son muy pocos para poder llegar a conclusiones últimas, del mismo modo que la evidencia sobre dicho punto es igualmente contraria y favorable. De todos modos, el deterioro del tiroides por enfermedad o lesión parece ser un factor en la localización de la metástasis en esta glándula.

Свод

Подробно доложен один случай и сделан обзор 15 случаев, найденных после старательного поиска в научной литературе, с целью найти отношение супраренальных расстройств к щитовидной токсичности. Этих случаев слишком мало для определенных заключений, и данные показывают, как и pro, так и contra. По-видимому поражение щитовидной железы болезнью или траумой не является фактором в локализации метастазов этой железы.

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THE TWELFTH NATIONAL ASSEMBLY AND CONVOCATION

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Dr. Francis D. Wolfe, Housing Chairman, I.C.S.
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Editorial

The Preparation of Patients for Large Scale Operations

FROM time to time it becomes necessary to take stock of the advances in medical science in order to integrate the newer knowledge and more advanced practice with the problems encountered by surgeons. This is especially important in patients beyond the fourth decade of life, in whom there frequently coexist a dominating surgical condition, like cancer, and medical conditions commonly preceding and independent of the condition for which surgery is contemplated. With the increasing magnitude and frequency of performance of large scale operations necessitated for the cure of such fundamental diseases, it can readily be understood how important the preparation of these patients for operation is, and how closely the immediate recovery from operation and the later complete success of any operation depends upon the adequacy of the efforts in obviating or, at least, in improving to the utmost any such associated medical abnormality or disease.

In direct proportion to the severity of the illness and to the length of time for which it has existed, the patient generally shows a loss of stamina or pep, loss of weight and strength, various degrees of fatigue, absence of the normal sense of well-being, and a much lessened resistance to disease and to bacterial and other trauma. In all cases this is caused by (1) protein deficiency states, (2) by anemia and (3) in many cases by consequent latent liver changes both in function and later in structure.

It has been shown (1) that sufficient proteins protect the liver from the possible toxic effects of anesthesia; (2) that proteins are the materials from which structural and functional losses through ordinary wear and tear as well as through extraordinary periods of disease and as a result of operative procedures, are recovered. (3) By virtue of this, they increase the ability and readiness of wounds to heal by preventing tissue edema and by supplying the essential nutrients required for tissue repair and regeneration; they increase the antibody protection of the body; they furnish the factors which regulate blood clotting and control hemorrhage. And an abundant protein supply does away with fatigue, gives a sense of well-being and vigor and helps in maintaining a proper, cheerful frame of mind in the vicissitudes of large operations. In addition, proper control of the fluid and electrolyte balance in surgical patients is not possible unless the serum-protein concentration is maintained within normal limits. The latter is aided by a sufficient supply of minerals.

The measure of any protein deficiency can be approximated by repeated estimation of the blood plasma level of protein, and variations from the normal level of 5.6 to 6.5 mg. % standard should be noted. Many patients, even though they may apparently look well nourished, have levels below those indicated. When the patient obviously looks undernourished or even cachectic, it must be assumed that the protein reserves are depleted to an extent which would increase the risk of operation, handicap recovery therefrom and interfere with subsequent healing.

Varying degrees of secondary anemia are constantly present and are related to any coexisting hypoproteinemia. The anemia, of course, depends upon any hemoglobinolytic effect of any malignancy and upon the amount of previous bleeding.

An important point, usually not appreciated, is that when the protein deficiency and anemic states exist for a long time, their restitution to the normal by pure replacement therapy—the only available method—cannot be done quickly. The important item to re-

place is the normal reserve supply of protein, and this can only be built up gradually by repeated and persistent effort.

In calculating the daily necessary amount of protein for replacement therapy, the following factors must be considered: (1) the nitrogen balance; (2) the estimated degree of deficiency in the tissues and reserve protein; (3) the possible continuance of the original disability (gastro-intestinal disease with either vomiting and/or diarrhea, carcinoma, dysenteries, hyperthyroidism, hepatic disease and so on) which caused the deficiency; (4) the loss to be anticipated as a result of operative trauma; and (5) the additional amount of protein to be given to allow for any unavoidable error in the computation.

In any case the presence of any hepatic parenchymal disease—apparent or latent—of any grade makes for difficulty because of the inherent inability of the diseased liver to metabolize the administered protein.

If no success follows replacement therapy by mouth, or it follows in insufficient degree, if the grade of the protein deficiency is severe or extreme, or if there is any necessity for urgency in the correction of the hypoproteinemic state, more active measures are necessary. These include parenteral replacement of protein by (1) transfusion of fresh whole blood; (2) transfusion of wet or dried human plasma; (3) reinfusion of human transudate fluid (ascitic and/or pleural); and (4) the use of amino acids.

When cardiovascular disease is present, it necessarily becomes a major factor in the preparation for operation. The patient either has hypertension or cardiac disease proper and/or coronary artery disease. Most patients in the later periods of life have some hypertension. Usually this does not influence the choice of the method or the drug used for the anesthesia, or the conduct of and the reaction to the operative procedure. In severe hypertensive cases, especially with renal manifestations and persistent azotemia, the methods of reducing hypertension are not as effective as one would like. And there is no available method of estimating the operative risk under such conditions.

The problem with cardiac disease proper is different. The main considerations include the degree of myocarditis present, the ratio of cardiac compensation and the effective amount of cardiac reserve. In any case the condition of the lungs and the likelihood of any bronchopulmonary edema must also be considered.

The preparation of patients with sclerotic valvular disease is not too difficult. Unless an extensive myocarditis is also present, the cardiac mechanism can be quickly brought to a satisfactory state; then there is little or no difficulty either immediately or in the postoperative period. Main reliance is put on rest in bed and the use of digitalis and/or quinidine.

The preparation of patients with coronary disease is more difficult. The patient should never be without the attention, and the surgeon should never be without the help and advice, of a competent cardiologist. The following are important items in considering the risk of operation: (1) the length of time between the onset of the coronary disease, especially of any initial acute closure, and the performance of the operation. The longer this period is, without any further or repeated coronary episodes of coronary closures, the less risk there is. The condition is somewhat different when the closure is a long, slow affair. (2) The degree of muscular involvement in the infarcted cardiac area determines the degree of cardiac compensation and the extent of cardiac reserve. At present there is no method whereby the reserve capacity of a diseased heart can be measured with any degree of accuracy, especially for judgment of surgical risk. This is one of the most difficult items for consideration in the preparation of these patients for surgery. (3) Embolic phenomena are common in cardiac disease, especially in acute coronary closures. The important ones occur in the brain, lung and kidney. When the disturbance created by one or more of these embolic lesions is sufficiently great, operation should not be performed because the risk is too great.

The occasion arises when operation must be done on an individual who with or without preceding cardiac disease has gone through a cerebral episode, either embolism

or hemorrhage. The important factors upon which judgment is based include (a) the length of the interval since occurrence and recovery from the cerebral episode; (b) the degree of residual disturbance; (c) the presence of other similar vascular lesions; (d) the underlying provocative disease, and (e) the general condition of the patient. The amount of residual paralysis is not so important in integrating these facts with the rest of the picture and of estimating the risk.

The association with renal disease both with and without cardiac involvement is common. The case should be well studied with special attention to the total urinary output, to any changes in blood chemistry, to the degree of azotemia, to any existing edema and to any other associated condition.

In all forms of cardiovascular-renal and of pulmonary disease, since there is no available accurate laboratory measure of the extent of the disturbance, of the degree of compensation and of the available reserve, the best guides for integrating all observations, for estimating the operative risk and for taking the proper preparatory precautions are experience and mature judgment.

Embolic phenomena are very frequent in the lungs and are combined with infection. Large consolidations are less common than scattered patches. Because of these facts, the facility with which bronchopulmonary edema may appear suddenly is a serious and dangerous matter, especially when intravenous alimentation is necessary. Operation in such individuals is so risky, that it ought to be refused in most cases.

Any associated azotemia is an indication of the gravity of disease and of the operative risk. This has reference to all forms of renal disease, to cardiovascular disease in general and to acute coronary seizures in particular; also to hepatic parenchymal disease both because of the liver lesion itself and because of any secondary kidney effects (e.g., hepatorenal syndromes). Correction of the azotemia before operation is, however, possible to a very limited degree only, if at all.

In intestinal obstruction, azotemia is a measure of the length of time for which the obstruction has existed. No preoperative measures are possible because of the immediate dominating necessity for the relief of the obstruction, but the release of the obstruction is followed by a spontaneous disappearance of the azotemia. In patients who are dehydrated, sufficient parenteral fluids should be given preoperatively and continued, if necessary, throughout the operation.

In all patients, postoperative bacterial infection should be combatted by the use of penicillin and the sulfa drugs preoperatively, locally in the operative area at the conclusion of the operation, and postoperatively. Certain toxic effects of the sulfa drugs have been reported in the literature which are important from the point of view of the cardiac mechanism. French, Weller and Dozzi have reported an interstitial myocarditis, rich in eosinophil cells. Fortunately these occur rarely.

Except in very marked cases, the additional preparation needed for the diabetic patient is slight. In severe diabetics, there is no objection to and possibly some advantage in permitting a slight glycosuria to remain. With good medical cooperation, it would be rare, indeed, if a patient could not finally be brought into satisfactory condition.

In all patients, and especially in elderly or handicapped patients, who have undergone any large operation, it is important that the measures carried out before operation for any of the various complicating or associated disabilities be continued in the immediate postoperative period in order to continue the good effect and to forestall and counteract the additional injury and physiologic disturbance by which the operative procedure was necessarily followed.

ABRAHAM O. WILENSKY

NEW BOOKS

This biography of one of the leading contributors to modern surgery by **Dr. Tanner,**[1] one of his pupils, gives the reader a clear and concise picture of a surgical pioneer. He emerges from the book as a man of sterling qualities, a charming personality, a master craftsman and of such strong will that he bore aloft the torch of advancement against all adverse criticism.

The book is not just the story of one man, but also a history of the advancement of surgery during the past quarter of a century. Dr. Tanner has given a complete bibliography of all of Lane's publications, which indicates the tremendous variety and scope of interest, his prolific writing when medical publications were relatively few and infrequent and the inventive turn of his mind. It is interesting to note that as early as 1911 Lane performed an esophagectomy for carcinoma using a tubular skin flap for anastomosis to the stomach.

Dr. Leonardo [2] has ably and intelligently removed the bugaboo of hospitals and surgical operations which is generally present in the patient's mind when he concerns himself with medical and and surgical matters. There are the inevitable questions from the prospective surgical patient, such as "How much will it cost, Doctor?" or, "What are the dangers, Doctor?" These and practically all other conceivable questions have been answered by Dr. Leonardo in an intelligent and clearly understandable manner. It is recommended that a copy of this book be at hand in the waiting rooms of our offices.

This monograph by **Drs. D'Allaines, LeRoy and Dubost,**[3] written in French, presents the experiences and results of 10 years of work at the Paris Hospital. The authors expound the theories and work of Babcock and Bacon, the leading advocates of primary abdominoperineal resection with preservation of the sphincter. The authors discuss the advantages, disadvantages, indications and contraindications of two types of operations, (1) the radical or total resection including the anus, and (2) the conservative or palliative operation. Each surgical procedure is illustrated with minutely detailed drawings covering all phases and variations of the two operations. The book should be a "must" in the medical libraries of the profession.

Dr. Leithauser [4] has presented his experience with 2,047 surgical cases during the past seven and one half years as logical arguments in favor of early ambulation in the postoperative management of surgical patients. He claims no originality for the development of the plan, rather gives full credit to the early pioneers in the radical theory of ambulation immediately on recovery from anesthesia. His review of the literature and the bibliography are complete in all details.

Reading the remarkable results reported, one cannot help but absorb some of the enthusiasm for the method with which Dr. Leithauser presents it. The results obtained in seriously ill patients who elsewhere are usually kept in bed for long periods of time, and the low incidence of postoperative complications of all types are impressive. The author believes that the best and only time to prevent a difficulty is before it arises. If this can be accomplished in all cases by early ambulation and if early means immediately after recovery from anesthesia, full approval must be given the method advocated. Obviously adequate preoperative management, standardization of surgical technic including transverse and oblique incisions and nonabsorbable sutures, and a carefully supervised and standardized postoperative regime are a combination which logically should give the best results. The statistical report given by Dr. Leithauser is most impressive.

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[1] Sir W. Arbuthnot Lane, Bart. His Life and Work. W. E. Tanner, M.S., F.R.C.S. Bailliere, Tindall and Cox, London, 1946.

[2] If You Need an Operation. Richard Leonardo, M.D., F.I.C.S. Froben Press, New York City, 1947.

[3] Surgical Treatment of Rectal Cancer. Fr. D'Allaines, M.D., A. LeRoy, M.D., and Ch. Dubost, M.D. Editions Mèdicales Flammarion, Paris, 1946. 214 pp.

[4] Early Ambulation and Related Procedures in Surgical Management. Daniel Leithauser, M.D. Charles C Thomas, Springfield, 1946. 220 pp.

Dr. DuBouchet's [5] work is noteworthy not only because it is completely modern in concept, ideas and terminology, but also because such a book could issue from a country ravaged by bitter war for so many years. The book is not large, but it is condensed to cover the main points of value regarding pharmacology and physiologic effects of the drugs used in anesthesia. The chapters on preoperative medication, stages and signs of anesthesia and the technics are commendable. Aside from the more common methods, intratracheal and refrigeration anesthesia are competently discussed. Dr. DuBouchet is well versed in the American technics and methods as evidenced by her complete bibliography and references.

To those reading French the volume is heartily recommended.

This new, second edition of **Dr. Mobley's** [6] text on Operative Surgery has been expanded to include a much too brief chapter on injuries. Additions also have been made to the chapters on anesthesia, surgery of the arteries and others. A short discussion of the surgical treatment of diverticulosis, the treatment of intussusception by traction and the injection treatment of hernias has been added.

The book is in the true sense of the word a "refresher", useful to those seeking, without too much effort or reading, a relatively clear and direct description of each step in the more common, simple operative procedures. It is entirely adequate for the beginning surgeon, the student and the intern, to whom the book is primarily dedicated, but it falls short of the needs of a reference book for the advanced surgeon.

Dr. Posse [7] has covered the entire field of plastic surgery in the most thorough manner possible, from face lifting operations to the radical, extensive operations for generalized adiposity. He has reviewed not only the Spanish literature on this subject, but betrays a most profound knowledge of the work done in North America and Europe as well. The book testifies to painstaking study and detail in the selection of the most outstanding technics of those courageous surgeons who are considered pioneers in each separate phase of plastic surgery or who have contributed some preeminent surgical technic, such as Thorek and Dartigue on reconstruction of the breast, Safian on the correction of nasal deformities, and Halle and Lexer on protuberant ears.

About two thirds of the book is devoted to the correction of facial deformities, a field in which the author is apparently especially interested. Nothing is left in a state of uncertainty or confusion, but all steps of each and every procedure are given in full detail, from preoperative care to postoperative treatment. Several surgical technics devised by the author himself are included. The book is heartily recommended to all surgeons interested in plastic surgery.

This monograph on surgical technics by **Dr. Riveros** [8] is definitely misnamed, since it is a summary of case histories of surgical procedures performed by the author in his capacity as Professor of Clinical Surgery at the Instituto de Clinica Medica.

Dr. Riveros is to be congratulated on the complete and thorough preoperative and postoperative management of patients as outlined in the book and as shown by the case histories. The profusion of pre- and postoperative illustrations and the photographs of pathologic specimens serve to clarify and emphasize various important points. Of the chapters, three are outstanding. These are a frank and outspoken discussion of the cancer problem in Paraguay; an interesting study of cancer of the thyroid gland with some excellent illustrations; and lastly, the chapter on primary cancer of the gallbladder. The statistics reported by Dr. Riveros compare favorably with those established in the United States.

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[5] Manuel D'Anesthesie. N. DuBouchet, M.D., Member of the American Society of Anesthesiologists, Inc. Editions Médicales Flammarion, Paris, 1946. 245 pp., 26 illus., 11 tables.

[6] Synopsis of Operative Surgery. H. E. Mobley, M.D., F.A.C.S., F.I.C.S. C. V. Mosby Company, St. Louis, 1947. 399 pp., 383 illus., 37 in color.

[7] Plastic Surgery. Ramon P. Posse, M.D. Miguel Violetto Publishers, Buenos Aires, 1946. 299 pp., 397 illus.

[8] Lecciones de Cirugia. Manuel Riveros M., M.D. Talleres Graficos L. E. Y. C. A., Nocito & Rano, Buenos Aires, 1946. 406 pp.

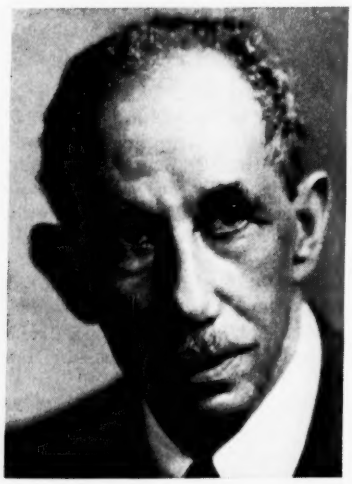
Obituaries

SIR ALY PACHA IBRAHIM

M.D., F.R.C.S. (HON.), F.I.C.S. (HON.)

One of the most outstanding medical personalities of the entire Orient, Sir Ibrahim, was carried to his grave recently in Cairo, Egypt. He was born in 1880 and died on Jan. 28, 1947.

Professor Ibrahim studied medicine and surgery in Egypt and in England, and his brilliance and mental capacities, as well as his compassion and understanding of human weakness commanded the attention of his surroundings wherever he was. He was appointed Professor of Surgery at the Faculty of Medicine in Cairo in 1924, where he became an inspiring symbol to his many students. He was vitally interested in developing scientific research in Egypt and gave unstintingly of his time to all the problems connected with it. He contributed extensively to the medical literature, publications which show his interest in all phases and fields of medicine and surgery. In 1930 Sir Ibrahim became Dean of the Faculty of Medicine of the Fouad I. University, and a few years later he was elected President of the Egyptian Society of Surgeons and of the Red Crescent Society. The peak of his career was reached in 1940, when he was appointed Minister of Public Health. He was thoroughly familiar with the sanitary needs of his country and did brilliant and constructive work as Minister of Health. He chose, however, not to remain at this work and returned to the Fouad I. University, whose Rector he became at the same time that he was appointed President of the Egyptian Institute. He achieved international acknowledgment of his outstanding work as scientist and became Vice-President of the International College of Surgeons.



The picture of Sir Ibrahim would not be complete if we did not mention his deep knowledge of Islamic art and archeology. He was one of the world's greatest experts on oriental art and carpets. His own collection, which began as a hobby and relaxation from the immense strain of his profession, is unique and beyond compare.

Professor Dr. Hugo Picard, his coworker and friend of many years, pays lasting tribute to Sir Ibrahim by recalling the old Roman saying: "As the span of life vouchsafed to us is so short, let us make the memory of our lives as lasting as possible." The memory of Sir Aly Pacha Ibrahim will last a long, long time.

GEORGE LOUIS SCHNEIDER

M.D., F.A.C.S., F.I.C.S.

Word has reached us of the untimely death of Dr. George Louis Schneider of Williamsport, Pennsylvania. Dr. Schneider was born in South Williamsport, Pennsylvania, in 1886 and graduated from the Jefferson Medical School in 1911. He then returned to Williamsport, where he remained to practice general surgery at the Williamsport Hospital as Chief of the Fracture Clinic, Chief of the General Surgical Service and Chief of Physiotherapy. He was a member of the American Medical Association, the Lycoming County Medical Society, the Pennsylvania State Medical Society, the American Academy of Physiotherapy and the Pennsylvania Roentgen Society. He was President of the Lycoming County Medical Society in 1933 and was Chief and President of the Hospital Staff of the Williamsport Hospital. He wrote numerous local society papers, and his civic interests were such that he was elected Chairman and Commander of the South Williamsport Counsel of Defense in 1941. Dr. Schneider was elected to Fellowship in the International College of Surgeons in 1944 and was inducted at Washington, D. C., in December of 1945. His passing is felt as a distinct loss of a loyal and helpful Fellow by all College members.

ERIC ALBERT HARTLEY

M.D., F.I.C.S.

Dr. Eric Albert Hartley of Chicago died suddenly at the age of 60. Dr. Hartley was born in Berlin, Germany, in 1887 and graduated from the University of Berlin in 1912. His postgraduate studies were done at the Klinik A. Bier of the University Hospital in Berlin, at the Knickerbocker Hospital in New York City and at the American Hospital in Chicago. He specialized in general surgery and was a member of the American Medical Association, the Chicago Medical Society, the Illinois State Medical Society and the American Society of Anesthesiologists. He was also on the staffs of the Columbus Hospital and the Frank Cuneo Hospital of Chicago. He became a Fellow of the International College of Surgeons in 1946. He contributed extensively to the medical literature, indicating his wide interest in and deep knowledge of general surgical problems. His loss is keenly felt by all who knew him.

KENNETH EARLE LOWMAN

M.D., F.A.C.S., F.I.C.S.

Word has reached us of the untimely death of Captain Kenneth Earle Lowman, Medical Corps, United States Navy (Retired), of Coronado, California. Captain Lowman was a Fellow of long standing in the International College of Surgeons, receiving his induction into the College in September, 1937. Captain Lowman was born in Orangeburg, S. C., in 1890, and he attended the Medical College of the State of South Carolina in Charleston, graduating in 1916. He entered the United States Navy in 1917. During the second World War he was senior surgeon on Admiral Thomas Hart's staff and was a prisoner of war held by the Japanese until he was rescued in Mukden in 1945. Later he served on the retiring board of the Naval Hospital in San Diego. He died in Lake Henshaw, Oct. 26, 1946, aged 56, of an accidental gunshot wound while hunting.

Captain Lowman's wide interests and many tales of travel aside from his exceptional ability as a surgeon will keep his memory alive in the minds of all who knew him.

GABRIEL J. JACK

M.D., F.A.C.S., F.I.C.S.

Dr. Gabriel J. Jack, of New Haven, Connecticut, passed away on Feb. 6, 1947, at the age of 61. He was born in New York City in 1886 and graduated in 1907 from Boston University. Some of his postgraduate studies, primarily in surgery, were carried on at the University of Edinborough and in several hospitals in London. He was a member of the American Medical Association, the American College of Surgeons, the American Institute of Homeopathy, the Connecticut State Medical Society, the New Haven County Medical Society, the New Haven Medical Society and the International College of Surgeons. His induction into the International College of Surgeons occurred in 1942.

His passing leaves a keen sense of loss in all who had the pleasure to associate with him.

JAMES E. KING

M.D., F.A.C.S., F.I.C.S.

Word has reached us of the death of Dr. James E. King of Buffalo, New York, in May of this year. Dr. King graduated from the University of Buffalo in 1896 and became a Fellow of the International College of Surgeons in 1937. His specialty was gynecology, and he was Emeritus Professor of Gynecology at the University of Buffalo, aside from his duties as consulting gynecologist to the Buffalo General Hospital, the Buffalo State Hospital, the LaFayette General Hospital and the E. J. Meyer Memorial Hospital. He was a member of the American Medical Association, the State and County Medical Societies, the American Board of Obstetrics and Gynecology and the American Gynecological Society. He was sincerely beloved as a teacher and physician by his many students and patients alike.

SAMUEL ARTHUR FLAHERTY

M.D., F.I.C.S.

On May 9, 1947, Dr. Samuel Arthur Flaherty died suddenly of coronary disease in Detroit. Dr. Flaherty was born in Exeter, Ontario, in 1886 and graduated in 1914 from the Detroit College of Medicine and Surgery. His postgraduate studies, primarily in urology, were finished at the New York Post Graduate School of Medicine in 1918. He specialized in urology exclusively and contributed authoritative articles and reports to the medical literature. He became a Fellow of the International College of Surgeons in 1944, and was a member of the American Medical Association, the Michigan State and Wayne County Medical Societies, the Detroit Urological Society, the American Urological Association, and the Association of Military Surgeons of U. S. A. His passing is felt with keen regret by his many friends and patients.

CLARENCE HENRY CHRISTIANSEN

M.D., F.I.C.S.

Dr. Clarence Henry Christiansen of Superior, Wisconsin, died suddenly on March 8, 1947. He was only 52 years old. He graduated from the Marquette University and served as Resident in Medicine, Obstetrics and Gynecology and Surgery in the Milwaukee County Hospital at Wauwatosa. For three years he was Secretary of the Douglas County Medical Society and for one year President of the same organization. He also served as Secretary of the 11th District of the Wisconsin State Medical Society and as President of this organization. He was a member of the Douglas County Medical Society, the Wisconsin State Medical Society, the Interurban Academy of Medicine (composed of physicians and surgeons from Duluth, Minn. and Superior, Wis.) and the American Medical Association. Dr. Christiansen was elected to Fellowship in the International College of Surgeons in October, 1938, and was inducted at New York City in 1939. His friends and patients feel his loss keenly.

News Notes

The **Finland Chapter** of the International College of Surgeons held a meeting on April 18 in Helsinki. Professor Seiro read a paper on "The Blood Pressure and Circulation in the Superficial Veins of the Lower Extremities and the Methods of Their Investigation", emphasizing the hydrostatic pressure in the veins and the mode of exchange of blood between the deep and superficial veins. Professor Klossner of Turku discussed "Treatment of Postoperative Tetany Following Strumectomy with Free Bone Transplantation After Oppel"; some highly interesting points were the explanations on the exchange of calcium and phosphor and their metabolisms and the relation to the internal secretion of parathyroid glands. By using "os purum" Professor Klossner has obtained good and lasting results; he explained that the exact mechanism of implanted bone is not as yet fully understood. Associate Professor Pelkonen read a paper on "Cancer Statistics from Finland and Other Countries", stressing the importance of gastric cancer and the poor results of surgical treatment, mostly due to delay in operations.

Dr. Victor Fernandez Manero, F.I.C.S. (H.C.) has been appointed Ambassador Extraordinary and Plenipotentiary of the United Mexican States on a Special Mission to commemorate the Centennial of the Republic of Liberia.

The Mexican Academy of Surgery has recently unanimously elected the following members: Prof. Dr. Francisco Graña, F.I.C.S. (Hon.), of Lima, Peru, President-Elect of the International College of Surgeons; Prof. Dr. Enrique St. Loup B., F.I.C.S., of La Paz, Bolivia, member of the International Board of Trustees of the College; Prof. Dr. Benedito Montenegro, F.I.C.S., of Sao Paulo, Brazil; Prof. Dr. Felix de Amesti, F.I.C.S., and Prof. Dr. Italo Alessandrini, of Santiago, Chile.

Dr. Herbert Acuff, President of the United States Chapter of the International College of Surgeons, on his recent visit to the **Southern California Guild**, spoke at the Hollywood Exchange Club on "The Solidarity of the Western Hemispheres" and at the Los Angeles Breakfast Club on "Atomic Energy as Applied to Industry, Power and Human Ills." This address was broadcast over the Pacific Southwest network. Before the Hollywood Academy of Medicine he delivered a lecture on "Gastric Lesions—Their Treatment at the Present Time." Finally, before the Southern California Guild, he discussed the history and the future of the International College of Surgeons as a global factor of good will and surgical progress.

The first **Peruvian Congress of Surgery** took place in Lima from April 20 to 26. The Congress was organized by the Peruvian Academy of Surgery, under the auspices of the Peruvian Government. The first paper on "Surgical Treatment of Varices" was given by Prof. Dr. Francisco Graña, F.I.C.S. (Hon.), President-Elect of the International College of Surgeons. Other papers were "Conservative Surgery in Gynecology", by Dr. Lucas S. Molina, F.I.C.S.; "Acute Peritonitis in Surgery", by Dr. Enrique Camprubí, F.I.C.S.; and "Fractures of the Humerus", by Dr. Belisario Sánchez, F.I.C.S.

The **Eleventh International Congress of Military Medicine and Pharmacy** is scheduled to be held in Berne, Switzerland, June 2–7, for the first time since 1939. This organization was founded soon after the first World War by a group of consulting surgeons with the Allied armies. Distinguished officers of various countries have served as president, the present incumbent being Major Gen. Charles R. Reynolds, F.I.C.S., retired, former Surgeon General of the U. S. Army. The International Committee of Military Medicine has been cooperating with the International Committee of the Red Cross concerning the revision of the conventions of Geneva and of The Hague. The committee has put forth recommendations on this subject which were considered at the meeting of governmental experts of the International Committee of the Red Cross in Geneva in March. Surgeon Major General J. Voneken, F.I.C.S., of Liége, Belgium, is secretary general. Dr. William Seaman Bainbridge, F.I.C.S., is attending the meeting in an official capacity.

A **National Cancer Institute** has been founded in Canada to coordinate all Canadian cancer control work. One immediate objective is the enlistment of every physician in the preparation of careful case records. Physicians are urged to submit to the Institute every possible angle of

attack to further cancer control. An interim committee was appointed to proceed in dealing with grants and research projects while the National Cancer Institute is being legally incorporated.

The United Nations Relief and Rehabilitation Administration recently transferred one and a half million dollars to the **World Health Organization Interim Commission** for partial continuation of UNRRA's health programs in certain countries. A subcommittee of the World Health Organization Committee on Administration and Finance, under the chairmanship of Dr. C. Vandenberg of the Netherlands, met in February in Geneva to study reports from countries which have been receiving health assistance from UNRRA. Provisional allocations were made, *inter alia,* for a number of purposes, including the teaching program in China and such field activities as the continuation of the basic health program in Ethiopia and malaria and tuberculosis control programs in Greece. Allocations were made also for fellowships in eight countries and for visiting lectureships, for supplying medical literature in various countries and for contributions to the salaries of specialists stationed in the New York and Geneva offices of the World Health Organization Interim Commission. Among those attending the Geneva meeting was Dr. H. van Zile Hyde, Bethesda, Md., of the U. S. Public Health Service. The Interim Commission met in Geneva again March 31. Medical and health leaders from all parts of the world, some 100 in all, attended. The chairman of the Interim Commission, which is composed of 18 members, is Dr. Andrija Stampar, former vice chairman of the Economic and Social Council of the United Nations. The director of the Interim Commission headquarters office, in New York City, is Dr. Frank A. Calderone.

Forty-five of the 125 Chinese doctors, dentists, public health experts and nurses to whom fellowship awards will be made annually are now taking advanced studies at American universities in 14 states, according to the United Service to China headquarters. Seven others are en route. The fellowship awards were bestowed by the **American Bureau for Medical Aid to China** as part of a three year program under which six national medical colleges in various parts of China will receive aid designed to elevate their standards of medical education. On their return to China after a year's study they will join faculties of the six medical colleges. China has only about 13,000 qualified doctors for its 450,000,000 population and should have at least 266,000 if the Chinese people are to have anything approximating adequate medical care. The ABMAC during the war years provided medical supplies, helped train many technicians and introduced sulfathiazole, sulfanilamide and penicillin as well as its first blood plasma into China.

The **Italo-American Center for Medical Science** has been established in Rome, Italy, for the purpose of renewing cultural exchanges between the two countries interrupted by the War. The center has been authorized by the Italian foreign office. The president is the minister of education, the vice president is the president of the American Relief of Italy and among the directors are the rector of the University of Rome, three professors and a representative of the foreign office. The address of the center is Via Torino, 122, Rome, Italy.

The twenty-sixth **Congress of Medicine** will take place in Paris on October 16, 17 and 18 under the presidency of Professor Lemierre. The program will include the reading of papers on genetics, antihistaminics and cysts of the lung.

The **Japanese Medical Association** has been reorganized and has just published the first issue of its official organ, the *Journal of the Japanese Medical Association.* The association formerly was a government agency for the control of the medical profession; membership was compulsory by law and the government appointed the national and state presidents. The association has been reorganized under the guidance of the public health and welfare section, General Headquarters, Supreme Commander for the Allied Powers. It is now an association representing the medical profession with voluntary membership which selects its own officers.

The first conference of the **Palestine Society for Medical History** was held in Jerusalem on April 7. The object of the society is research into and propagation of knowledge in medical history and its branches, particularly research in Jewish medical history. It will have its own quarterly publication and a library with old manuscripts and photostats of manuscripts. The honorary president of the organization is Dr. Harry Friedenwald of Baltimore.

A **French medical society** of pathology of the respiratory system has just been created at the suggestion of Dr. Ameuille of Paris. Its object is to study nontuberculous illness of the respiratory system, and its official organ will be the

Journal Français de médicine et de chirurgie thoraçique.

Dr. Ludwig Rajchman, Polish delegate to the United Nations, has been elected chairman of the board of the International Children's Emergency Fund. This fund was created by the United Nations General Assembly for the benefit of children and adolescents of countries which were victims of aggression and countries receiving UNRRA relief, and for child health purposes generally, giving high priority to the children of countries victims of aggression. Executive director of the fund is Maurice Pate, former director of the Prisoners' War Relief Division of the American Red Cross.

The State Department Bulletin of Sept. 12, 1946, lists **immunization requirements for Latin American travel.** The symbols C, S, T and Y are used for cholera, smallpox, typhus and yellow fever, respectively.

Argentina	S, Y	Honduras	S, T
Bolivia	S, T, Y	British Honduras	C, S, T
Brazil	S, T, Y	*Mexico	S, T
Chile	S, T, Y	Nicaragua	T
Colombia	S, T, Y	Panama	Y
Costa Rica	S, T	Paraguay	S, Y
Ecuador	S, T, Y	Peru	S, T, Y
El Salvador	S, T	Uruguay	S
Guatemala	S, T	Venezuela	S, T
The Guianas	Y		

* In Mexico a smallpox certificate is required of all persons except tourists or persons in transit.

No immunization is required by Antigua; Bahamas, B. W. I.; Barbados, B. W. I.; Bermuda; Canal Zone; Cuba; Dominican Republic; Haiti; Jamaica; Martinique; Santa Lucia (Br.); St. Pierre Miquelon, Trinidad, B. W. I.; Virgin Islands. These requirements are minimal. Immunization against smallpox and typhoid-paratyphoid infections is probably advisable for travelers in any of the Latin American areas, and other immunizations may be advisable depending on the area to be visited.

Dr. Ernest L. Stebbins, of Baltimore, director of the school of hygiene and public health of Johns Hopkins University, has been appointed chairman of the advisory board on health services of the American Red Cross. Dr. Stebbins succeeds Dr. Lewis H. Weed, of Baltimore, head of the division of medical sciences, National Research Council. During 1946 Dr. Stebbins surveyed medical aspects of the American Red Cross civilian relief program in Europe. He toured 16 countries and in conjunction with local medical authorities made recommendations for rebuilding medical facilities. He also served as American Red Cross representative at a meeting of the medical commission of the League of Red Cross Societies at Oxford, England. Dr. Stebbins, a graduate of Rush Medical College, Chicago, who holds a master's degree of public health from Johns Hopkins University, served as epidemiologist with the state health departments of Virginia and New York, and as director of the division of communicable diseases and assistant commissioner of health and health commissioner of New York City. Prior to joining the Johns Hopkins University staff, Dr. Stebbins was professor of epidemiology at the Columbia University College of Physicians and Surgeons, New York City.

In closing the office of the **Committee on Medical Research** of the Office of Scientific Research and Development, Washington, D. C., the records accumulated during the war years 1941–1946 are being distributed to libraries throughout the country, so that they may be available to interested persons. Among the records are complete sets of the 78 issues of the (1) weekly bulletin entitled "Summary of Reports Received by the Committee on Medical Research", which bulletins contain abstracts of the "open" and "restricted" reports received from investigators; (2) bound and indexed sets of reprints of published work done under OSRD-CMR contracts; (3) indexed sets of the 734 numbered reports issued by the Board for the Coordination of Malarial Studies; (4) Aviation Medicine Reports, a complete set of the 505 numbered reports issued by the National Research Committee on Aviation Medicine; (5) final and interim reports of CMR investigators. Copies of almost all of these reports are on file in the Office of Medical Records, National Research Council, 2101 Constitution Avenue, Washington, D. C., where they can be consulted but not taken out.

A registry of primary malignant tumors of bones has been set up in the department of pathology, **Royal College of Surgeons,** London, England, to collect records of cases, especially those in which cure or prolonged alleviation has been attained by treatment. All cases claimed as five year cures will be considered by the committee, but in the future only cases with histologic proof of the nature of the tumor will be considered. Records with amputation or biopsy specimens should be sent to Prof. R. A. Willis at the college, Lincoln's Inn Fields, London W. C. 2

The public health program of the **Dominican Republic** includes the construction of 13 new hospitals to be added to those modern and extremely well equipped hospitals already built under this program. To aid the plan, the 1947 budget appropriation for the Department of Sanitation and Public Health has been increased by $420,592 over the 1946 allotment, bringing this year's total to $2,187,064. Two of the proposed hospitals are to be built in Ciudad Trujillo, the capital, at a cost of $250,000 each, and are to be very similar in construction to the new Dr. William A. Morgan Hospital for workmen and their families, which was opened recently in the new low-priced housing neighborhood.

Singapore will become the headquarters for the United Nations World Health Organization for its epidemiologic control in the Far East. The same bureau which the League of Nations used will be occupied. The bureau will be used to report and distribute information on pestilent diseases in the Far East.

An **International Congress for Orthopedic Surgery and Traumatology** will be held at Amsterdam, Holland, in September, 1948. Dr. Henry W. Meyerding of the Mayo Clinic will be chairman of the congress.

Several **new Journals** have made their appearance. One is the *Archivors de Neuro-Psiquiatria,* the official organ of the Sanatorio Dr. Galigarcia. It is a quarterly journal with editorial headquarters in Havana, Cuba, and contains editorials, medical news, original articles and abstracts of articles. Some of the articles are translated from English or Portuguese. The American Cancer Society announces two new publications, (1) *Cancer News,* a journal intended for the public, and (2) *Cancer,* a professional journal for distribution to the medical profession; the latter will make its first appearance late this summer.

Correction

The statement on page 238 of the March-April issue of the JOURNAL, which reads that "Dr. Boyd is Chief of Staff at the Hollywood Presbyterian Hospital, . . ." has been printed in error. Dr. Herbert J. Movius, F.I.C.S., is Chief of the Staff for the Hollywood Presbyterian Hospital of Los Angeles.

Mr. Kenneth Walker, F.A.C.S., F.I.C.S., of London, England, informs us that some one is impersonating him here in the United States. The imposter is giving a course of lectures, using Mr. Walker's name, claims to have written Mr. Walker's books and has added fictitious titles to that list of books. The matter was called to Mr. Walker's attention by some Americans. The matter has been taken up by the British Medical Defense Union. One of the advertisements sent to Mr. Walker concerning this series of lectures bore the imprint of the Ricklie Boasberg Lecture Bureau, 441 Superior Arcade, Cleveland 14, Ohio.

Anyone having information about the individual impersonating Mr. Walker kindly communicate with the office of the JOURNAL.

Sección en Español

Tratamiento Quirúrgico del Cáncer de Recto*

Rectosigmoidea sin Colostomia Previa

HARRY BACON, M.D., F.A.C.S., F.I.C.S.
PHILADELPHIA, PENNSYLVANIA Prof. Dr. Felipe F. Carranza

La eliminación de la colostomia abdominal en el tratamiento quirúrgico del carcinoma rectal y recto sigmoideo constituye sin disputa alguna el tratamiento ideal de esta localización del cáncer, la más frecuente del aparato digestivo, el 80 por ciento.

Pero, para que esta premisa, sea valedera, es indispensable que la técnica empleada cumpla el objetivo principal del tratamiento quirúrgico del cáncer, o sea la extirpación completa de la enfermedad.

Las tentativas de eliminar la colostomia abdominal en el tratamiento del cáncer rectal y sigmoideo han estado en la mente de muchos cirujanos y sin hacer una historia detallada por la índole de esta comunicación y por dirigirme a cirujanos especializados, mencionaré solamente contribuciones de vieja data como las de Reybard, Kocher, Kraske, Murphy y Mayo, y las más recientes, en las últimas décadas, de Lexer, Mandl, Wayne Babcock y H. Bacon.

Sin embargo, justo es confesar que estas contribuciones, me refiero en especial a las últimas, no han tenido en los medios quirúrgicos la repercusión que en nuestro concepto merecen, y se debe a que la mayoría de los cirujanos permanecen adictos a lo sustentado por Miles, que hace 30 años, no satisfecho por el alto porcentaje de recidivas como consecuencia de la extirpación del recto por via baja, se acometió latarea de desarrollar una nueva técnica conjuntamente con Querú, y basados en los trabajos anatómicos de esa época, crearon una nueva técnica: el método combinado abdomino-perineal.

El desarrollo y perfeccionamiento de esta complicada operación demandó un lapso largo de tiempo y costó la vida de muchos pacientes aún en casos que, dada la precocidad del diagnóstico o lesiones de poca evolución, lógica era esperar una curzción definitiva o temporal, por lo cual, algunos cirujanos conscientes de su deber no se animaron a someter a sus pacientes a un riesgo tan grande como era entonces el método abdominal-perineal, con más del 30 por ciento de mortalidad operatoria.

Estos hechos estimularon a Lockhart-Mummery, a Hochenegg y luega a su discípulo Mandl, a Voelcher y Lexer a perfeccionar la vía sacra indicada en la mayoría de los casos; reservando la vía abdomino-perineal para los casos iniciales, que en la práctica diaria son la excepción.

Nosotros en la Argentina, desde hace muchos años, hemos a adoptado esta conducta y, sintetizando, podemos decir que la práctica en gran ascala de la vía baja, unida a la preparación del enfermo y selección de la anestesía, como también el empleo sistemático de la electrocirugía nos ha proporcionado una disminución importante en la mortalidad operatoria y un aumento apreciable de las curaciones definitivas.

Debo recordar que en el año 1933, al presentar a la Sociedad de Cirugía de Buenos Aires un trabajo sobre 23 enfermos afectados por cáncer rectal y libre de mortalidad operatoria, a pesar de lo avanzado de la enfermedad de muchos de ellos, mi distinguido amigo y maestro, el Profesor Copello, relator del trabajo, expresaba en lo pertinente a la vía operatoria "antes tales hechos"—se refería a los trabajos de Goetzer sobre la vía sacra y las observaciones que se aportan entre noso-

* Este trabajo ha sido leído por su autor en la Asamblea del Colegio Internacional de Cirujanos celebrada en Lima, Perú, marzo, 1946.

tros—"vale la pena que revisemos el problema y sacudiendo un poco el dogma de las excelencias de la vía combinada, hagamos nuevas experiencias sobre la vía baja ampliada a base de las communicaciones anunciadas; no se trata de una conclusión sino de una demanda de revisión."

Desde ese entonces he continuado con entusiasmo perfeccionando la vía sacra, convencido de que los puntos de vistas sostenidos por Miles, relativos a la zona de extensión lateral y sobre todo inferior, precisaban ciertas modificaciones, por no estar de acuerdo con las observaciones clínicas, y eran mucho más reales en nuestro concepto los trabajos de Werthues que en 1934 publicó su libro "El fundamento anatomo-patológico del cáncer del recto."

En este trabajo se precisan, analizando 40 piezas operatorias del material de Schmieden obtenido por la vía combinada, la propagación linfática de las lesiones ano-rectales y basándose en ellos se fundan las condiciones que deben reunir una extirpación para ser clasificada como radical.

Se demuestra como hecho de gran importancia en primer término la frecuencia de pólipos por encima del tumor que son las fuentas de recidivas en el 50 por ciento de los casos, concluyendo que para ser catalogada como radical debe extenderse 5 cms. por debajo del tumor y 15 o 20 cms. por encima del mismo. La segunda condición, el nudo de la cuestión, o si quereis lo más fundamental, es la extirpación exacta de los ganglios hemorroidales superiores situados a lo largo de la mesentérica inferior, o hemorroidaria superior de los alemanes. Tercero, la extirpación centrípeta en una sola unidad total que comprende el tumor, la viscera y el tejido celular retrorectal, respetando la fascie perivisceral que limita y protege el tejido celular. A estas tres condiciones agregaremos siempre que sea posible, y lo es en la gran mayoría de los casos, la ligadura previa de la vía sanguinea y linfática principal y la arteria hemorroidal superior, antes de producir los traumatismos operatorios obligados en la extirpación del tumor, librando los elementos sépticos y celulares con sus ulteriores consecuencias.

Todas estas condiciones estan reunidas en las piezas operatorias que presento, incluso la más importante, objetivada por las radiografías que acompaño: que la ligadura hemorroidaria superior ha sido colocada en el mismo sitio que se la coloca cuando se práctica la vía abdomino-perineal, es decir a la altura del promontorio o 2 cms. por encima de él.

No insistiré en las ventajas que para el enfermo representa la vía baja, remitiéndome a mis trabajos anteriores, como el relato sobre "El tratamiento del cáncer de recto inoperable," en el año 1938, en la Asociación Argentina de Cirugía de Buenos Aires, y una comunicación a la Asamblea Internacional de Cirujanos de México, en el año 1941, en el cual llegaba a la siguiente conclusión: queda sentado para nosotros que la extirpación sacral ampliada electroquirúrgica es de elección en esta localización de las neoplasias. Con ello se consigue un sensible mejoramiento en los resultados ya que de nuestra experiencia surge que se puede obtener un 50 por ciento de curaciones definitivas de más de 5 años. Esta cifra se refiere a 261 enfermos operados personalmente con una mortalidad operatoria del 2 por ciento. Creemos que estas cifras hablan elocuentemente del éxito de la vía sacra ampliada.

Con gran satisfacción hemos visto que una autoridad en la cirugía rectal, de la talla de Lockhart-Mummery expresa en el 21° Relato Anual del Comité Británico de Lucha Contra el Cáncer, en el capítulo pertinente a patología, 1°, que al analizar cerca de 1000 casos de enfermos de recto tratados por extirpación radical se comprobaba que el 40 por ciento de los enfermos sobrevivían a los 5 años. 2°, que los muertos por recidiva, luego de este período eran muy raros y al compararlos con una población de control en cuanto al sexo y a la edad, se comprobaba que los enfermos con sobrevida de 5 años tenian iguales perspectivas que la población de control. 3°, que el tratamiento del cáncer de recto por colostomia presentaba una sobrevida muy reducida, menos del 1 por ciento alcanzaba a los 5 años. 4°, Comparando los resultados de más de 5 años de los enfermos tratados por extirpación perineal y aquellos sometidos a una operación combinada abdomino-perineal, se observaba

muy poca diferencia en el resultado, el 47,1 por ciento en la abdomino-perineal, y el 44,9 por ciento en los de extirpación perineal.

Hay que hacer recalcar que esta diferencia minima debe ser ponerse de relieve, si se piensa que la indicación de la excisión perineal se hace igualmente en personas con un estado general precario o de edad muy avanzada.

Estas conclusiones de la escuela inglesa que cuenta con cultores dedicados por entero a una u otra vía, es una corroboración de lo afirmado por mí en la V Asamblea del Colegio de Cirujanos realizada en México en el año 1941, pués es lógico pensar que si con la vía perineal que clasificamos de delativa radicalidad, con la sacral ampliada electroquirúrgica puede alcanzarse y aun sobrepasarse un 50 por ciento de curaciones definitivas.

Sentado el principio que la vía sacral es de elección llegamos al objetivo principal de éste relato y nos preguntamos ¿la exclusión de la colostomía abdominal invalida la radicalidad de la operación? Podemos contestar negativamente, mostrando en apoyo de lo que sustentamos las piezas operatorios logradas.

¿Por que indicamos como imperativa la práctica de la colostomia abdominal previa si puede excluirse?

El objetivo de la colostomia era preparar al enfermo en su estado local y general para sufrir en los riesgos de la importancia que significa la extirpación del recto carcinoso.

Pero si no hay duda alguna que ella, en ese sentido, cumple su objetivo, es a costa de inconvenientes de importancia.

La situación antinatural del ano, la imposibilidad de controlar con seguridad la salida de materias fecales, de mucosidades o de gases, el olor que despide el ano contra-natura a pesar de los cuidados adecuados, hace que constituya un achaque que restringe la vida de relación del paciente.

Si esto no fuera valedero, cuántas veces, después de haber tratado de convencer al paciente de lo imperativo de su práctica para asegurar una curación definitiva, hemos recibido la respuesta categórica: "Prefiero morir, antes de permitir que se me practique una colostomia."

Esto nos ha hecho meditar muches veces, si teníamos derecho a no satisfacer sus deseos encastillados en una conducta, y no intentar otras técnicas que en otras manos especializadas como las nuestras, daban resultados muy comparables a los nuestros.

Creemos hoy firmemente que un ano sacro bien constituído a costa de la sigmoidea, complementado con los cuidados de reeducación, régimen alimenticio apropiado y protesis temporaria, simplifica la vida de estos pobres enfermos y no debemos olvidar que esta es muy importante, pues estamos de acuerdo con Horsley de que uno de los objetivos que debería perseguir la cirugía es simplificar la vida.

La colostomia abdominal debe reservarse o tiene su indicación cuando el carcinoma rectal o recto sigmoideo se complica de fenómenos obstructivos irreductibles y también fundamentalmente en el tratamiento del cáncer rectal inoperable como tiempo previo a un tratamiento quirúrgico paliativo, fisioterápico o médico.

En los casos que la colostomia abdominal esté indicada debe ser lo más precoz posible, recordanda la alta mortalidad que agrava esta intervención cuando se práctica en un período de obstrucción.

Como ejemplo de las ventajas que el ano sacro ofrece sobre la colostomia abdominal, tenemos casos que apoyan nuestra manera de pensar, pudiendo recordar aquí como ejemplo, uno de los casos presentados hace 5 años de carcinoma rectal, que padecía al mismo tiempo desde su infancia del mal de Pott. Pensando que una colostomia sería sumarle un achaque más a su vida ya restringida, se indicó la extirpación en un tiempo, consiguiendo no solo la curación definitiva, sino la recuperación de su situación en el trabajo que hacía antes.

Este y otros casos efectuados aisladamente por circunstancias forzadas, es lo que nos ha llevado a perseverar en perfeccionar la práctica de la extirpación ano sacro.

PREPARACIÓN DE LOS ENFERMOS— CUIDADOS PREOPERATORIOS

Los enfermos que deben someterse a una extirpación sacral ampliada, son internados con el objeto de ser estudiados clínicamente para el éxito operatorio y funcional, lo que demanda un lapso de dos semanas.

En cirugía se nos presenta frecuentemente el problema de la operabilidad del paciente desde el punto de vista cardiovascular, en presencia de una indicación quirúrgica obligatoria. Y ello se comprende si se tiene en cuenta el papel preponderante que tiene dicho sistema durante y después del acto operatorio.

Es precisamente el conocimiento exacto del estado somático-funcional, unido a la información físico-química del paciente lo que debe constituir la base y dar la seguridad operatoria.

Se sabe y se admite sin reserva que no debe someterse a intervenciones cruentas en estado de insuficiencia cardiovascular, no sélo por los peligros que existen de aumentarla, provocando con ello estados graves de *shock* y de colapso, sino también por el estado tisular.

No se puede, en cambio, ser tan explícito cuando se trata de pacientes con lesiones o trastornos funcionales compensados, porque no se sabe si estos enfermos van a conservar su equilibrio hemodérmico al ser sometidos a los distintos actos operatorios. "La existencia de una lesión cardíaca no contraindica por sí sola la intervención quirúrgica, dependiendo ésta más bien del estado funcional de dicho sistema." Es por esto que para tener la seguridad operatoria es menester someterlos previamente a los exámenes funcionales clásicos, no sólo en reposo sine también en actividad.

La conducta seguida a este respecto la hemos detallado en extenso en un trabajo presentado a la IV Asamblea del Colegio Internacional de Cirujanos realizada en Méjico en 1941 y publicado en el Boletín del Instituto de Medicina Experimental N° 58 de 1941.

Efectuados los análisis clínicos, y de acuerdo a ellos, el enfermo es puesta en equilibrio humoral, calórico, nitrogenado y electrolítico.

Se indica un régimen de pequeño residuo y, salvo contraindicaciones, se administran líquidos por vía oral en cantidad que no exceda los 2000 cm.^{3} por día. Se completa esta indicación, administrando vitaminas por vía oral a parenteral, sabiendo que con frecuencia se observa avitaminosis por exigencias de la misma neoplasia al organismo.

Las transfusiones son de práctica de acuerdo con el hemograma, ya que lo ideal es llevar a estos enfermos al acto operatorio con 4,5 millones de eritrocitos.

Juzgada ya la eminencia de la intervención, es imperativo para el éxito del funcionamiento ulterior del ano sacro y para evitar su fracaso, complicaciones y secuelas, la preparación del intestino, lo que demanda un plazo de 8 a 10 días.

Indicamos para exonerar el intestino, aceite de ricino a la dosis de una cuchara sopera diaria durante 3 o 4 días, completada con pequeñas enemas evacuantes; cuando se tiene la seguridad de su limpieza, se constipa al enfermo 3 días antes de la intervención, de preferencia con tintura de opio a la dosis de 45 gotas por día, indicación que se prolonga el primer día de la intervención.

Rutinariamente se administra sulfamidas, sulfasuxidina 5 días ante de la intervención, a la dosis de 25 centígramos por kilogramo de peso, cada 4 horas.

La anestesia usada en nuestros enfermos ha sido la raquídea, a la novocaína, de acuerdo con el peso del paciente, no excediendo las 0,12 centígramos. Esta anestesia nos ha proporcionado excelentes resultados. En esta serie de 24 enfermos, sólo dos veces hemos recurrido a la anestesia general por éter, debido, uno a senectud, y otro a hipotensión irreductible. En ambos casos se hizo inducción con pentotal sódico, 0,50 centígramos.

TÉCNICA

La técnica de la operación sacral ampliada la hemos descripto con detalles y en base a estudios anatómicos efectuados por nosotros, en un relato anterior de este Colegio, el que figura, en el Boletín del Instituto de Medicina Experimental N° 58, 1941, por lo que nos concretaremos a hacer una síntesis de ella y agregando las modificaciones que son imprescindibles para la constitución y el funcionamiento perfecto del año sacro.

Anestesiado el enfermo, se le coloca en posición de Depage, que es la que ofrece mayores ventajas para el desarrollo regular de la intervención, tanto para el cirujano como para los ayudantes.

Se cierra el ano con una doble jareta de

seda, y luego se hace el campo, dando comienzo a la intervención.

Utilizando la corriente de electrotomia, se incide la piel a partir de la región sacra, en la línea media, por encima del 3° agujera sacro, y se desciende hacia abajo, un poco a la izquierda de la línea media, hasta llegar al ano, sin circunscribirlo por completo. División del tejido célulo-adiposo en toda la extensión de la herida, utilizando la misma corriente. Separación del glúteo mayor, de sus inserciones sacras, del ligamento tubero-sacral y espino-sacral, con corriente de coagulotomía, manteniéndose en la proximidad de la región ósea, para evitar le hemorrhagia, que así es nula, y para evitar la arteria pudenda que corre más afuera. Osteotomía del sacro por debajo del 3er agujero, con ayuda de un escoplo ancho. Seccionado el hueso, se tira hacia abajo con ayuda de un tenáculo, para separarlo con cuidado de la fascie perivisceral y evitar así herir la arteria sacra media.

Logrado esto, se separa el recto conjuntamente con su envoltura fibrosa que contiene el tejido conjuntivo retrorectal de la cavidad ósea (maniobra de Goetze), lo que se efectúa con gasa montada. Con ello se crea una amplia cavidad, que deja visualizar, arriba el promontorio, hacia adelante el recto con su envoltura fibrosa, y hacia arajo los elevadores recubiertos por la fascie anal.

Hemos sintetizado en las líneas precedentes la vía de acceso sacra para la extirpación del recto; comienza ahora, en realidad, la intervención, la que comprende, en síntesis, los siguientes tiempos operatorios:

(1) Sección del elevador del ano, lejos de la línea media.
(2) Sección de la fascie pelvivisceral.
(3) Desprendimiento del recto, de las formaciones urogenitales anteriores.
(4) Abertura amplia del peritoneo.
(5) Ligadura de la arteria hemorroidal superior.
(6) Exteriorización de la sigmoidea, en cantidad apropriada para tener suficiente intestino para constituir un ano sacro.
(7) Cierre del peritoneo.
(8) Sección intestinal, previa fijación a la pared con puntos de sedo.
(9) Reconstitución de los planos musculares y tejido celular subcutáneo.
(10) Cierre de la piel dejando un tubo de drenaje de goma en la parte inferior de la herida.

TRATAMIENTO POSTOPERATORIO

Se administra durante los dos primeros días suero glucosado isotónico, a la dosis de 1000 cm.^{3} por día, permitiendo después de las 24 horas la ingestión de líquidos por boca, de preferencia té y agua mineral sin gas. Llama la atención la falta de *shock* de estos enfermos, por lo cual sólo es necesario administrarles cada 6 horas un tónica cardíaco para mantener su estado cardiovascular.

Esto se explica, en nuestra concepto, por el empleo de la electro-cirugía, cuya ventaja es la oclusión de los vasos sanguínese y linfáticos, efectos anti-infecciosos y anti-*shock* debidos a las propriedades de las corriente de alta frecuencia que permiten efectuar la intervención casi sin pérdida de sangre.

El *clamp* que cierra el ano sacro se retira a las 48 horas, comenzando a alimentar al enfermo con sopas y purés, y suspendiendo la constipación, se hace evacuar el vientre al quinto día por medio de vaselina líquida.

Casi todos los enfermos de esta series han estado en condiciones de dejar el lecho del 10° al 12° día, y pudieron ser dados de alta al mes de efectuada la intervención. Este es un beneficio obtenido, en nuestro concepto, por los recursos de la quimioterapia moderna (indicación de sulfamidas y penicilina para combatir la infección). Antes, las heridas eran dejadas abiertas para evitar la celulitis con sus ulteriores consecuencias, y los enfermos curaban por granulación sus heridas, lo que demandaba un lapso de más de 60 días.

RESUMEN

El autor presenta una serie de 24 casos de cáncer de recto y rectosigmoideo, operados por electrocirugía vía sacral, sin colostomía abdominal previa, lo que considera el tratamiento de elección.

Trae en apoyo de su conclusión las cifras presentadas por Lockhart-Mummery en el año

1944, que indican que los resultados definitivos con las dos vías no presentan grande diferencias.

Fundamenta con las piezas que presenta, la radicalidad, de la operación y con el éxito obtenido, las ventajas del ano sacro sobre la colostomía abdominal.

Como lo manifestó en la IV Asamblea del Colegio Internacional de Cirujanos, en el año 1941, considera que el procedimiento de elección en el tratamiento electro-quirúrgico del cáncer rectal y rectosigmoideo, debe ser la extirpación sacral ampliada, en un tiempo con ano sacra.

Los resultados obtenidos corroboran la conclusión a que llegó el autor en el año 1941 de que se podía obtener con la vía sacra un 50 por ciento de curaciones definitivas.

Estas cifras se refieren a 261 enfermos operados por el autor, con una mortalidad operatoria de 2 por ciento. Sin colostomía la mortalidad operatoria es menor del 4 por ciento.

RÉSUMÉ

L'auteur présente une série de 24 cas de cancer rectal et recto-sigmoidal, opéres électrochirurgicalement, par voie sacrale, et sans colostomie abdominale préalable, ce qu'il considère le traitement de choix.

En appui de ses conclusions, il mentionne les chiffres présentés par Lockhard-Mummery en 1944, lesquelles indiquent que la différence dans les résultats définitifs obtenus par les deux voies, n'est que minime.

Les pièces présentés démontrent la radicalité de l'opération, et le succès obtenu est une indication de l'avantage de l'anus sacral sur la colostomie abdominale.

Comme il l'a déjà manifesté en 1941, lors de la IV Assemblée du Collège International de Chirurgiens, l'auteur est de l'opinion que le procédé de choix dans le traitement électrochirurgical du cancer rectal et recto-sigmoidal, est l'extirpation sacrale ample, en un temps, et avec un anus sacral.

Les résultats obtenus confirment les conclusions de l'auteur en 1941, quand il assurait qu'il était possible d'obtenir, par voie sacrale, un 50 pour cent de guérisons définitives. Ces chiffres se rapportent à 261 malades opérés par l'auteur, avec, une mortalité opératoire d'un 2 pour cent. Sans colostomie, la mortalité opératoire est inférieure à un 4 pour cent.

SUMMARY

The author presents a series of 24 cases of rectal and recto-sigmoidal cancer which were operated on by the sacral route, electrosurgically, without previous abdominal colostomy. This he considers to be the procedure of choice.

In support of his conclusions, he mentions the figures presented by Lockhart-Mummery in the year 1944, as being the definite results using both routes.

The radicality of this treatment is confirmed by the operation specimens presented and the success obtained points out the advantage of the sacral anus over the abdominal colostomy.

As he stated at the IV Assembly of the International College of Surgeons, in the year 1941, the author considers the wide sacral removal in one stage, with sacral anus, to be the procedure of choice in the electrosurgical treatment of rectal and recto-sigmoidal cancer.

The results obtained corroborate the conclusions given by the author in 1941; that 50 per cent of definite cures could be obtained by the sacral route.

These figures refer to 261 patients operated on, with an operative mortality of 2 per cent. Without abdominal colostomy the mortality is less than 4 per cent.

El capítulo de los Estados Unidos del Colegio Internacional de Cirujanos convida cordialmente à los miembros de todos los capítulos del Colegio Internacional de Cirujanos à asistir à su XII asamblea nacional, la cual juntarà el 28, 29 y 30 de septiembre y el 1, 2, 3, y 4 de octubre de 1947, en Chicago, Illinois, EE.UU.

Cáncer y Experimentación

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EL panorama actual de la medicina muestra cuanto dolor y cuantas vidas sacrifica la humanidad al cáncer. Es considerable el número de enfermos cancerosos que se atienden en todos los hospitales y en todos los consultorios. No es posible responder a la pregunta que médicos y profanos se formulan cada día: *si el cáncer es hoy más frecuente que hace unas décadas.* Es fácil dar una respuesta aparentemente satisfactoria: que se lo conoce mejor y se lo pone en evidencia mucho más frecuentemente; que hace años, muchos enfermos morían de cáncer sin que se conociera la verdadera naturaleza de su mal. Pero un espíritu avisado no puede quedar satisfecho con esto. No existen medios de establecer si el número de cancerosos ha crecido o si sólo ha aumentado la proporción de cánceres que se diagnostican correctamente.

Es innegable que las enfermedades arteriales, la tuberculosis y el cáncer ocupan, por su frecuencia, los primeros lugares en la patología. La tuberculosis pareciera ceder terreno en estos últimos tiempos, merced a medidas de caracter higiénico y social. Si puedieran mejorarse en forma eficiente las condiciones sociales de la población, la tuberculosis, sin dejar de ser un penoso problema médico, disminuiría considerablemente el número de sus víctimas.

No puede decirse lo mismo del cáncer; la humanidad está desarmada para evitarlo; ante el hecho constituído, para curarlo, no hay más recursos que su extirpación o su destrucción *in situ*, ignorando su verdadera naturaleza y teniendo plena conciencia de esta ignorancia.

En efecto, en el estado actual de nuestros conocimientos, la profilaxis del cáncer no existe ni puede existir. En la actualidad continuamos en la más completa ignorancia acerca de la verdadera naturaleza del cáncer; no hemos ganado nada en relación a lo que ignorábamos a mediados del siglo pasado. Me refiero entiéndase bien, *a la verdadera naturaleza del cáncer, no a su estructura microscópico.*

El espectáculo así contemplado es desolado. *La investigación científica no ha proporcionada ningún hecho útil que pueda ser utilizado para curar el cáncer.* Sucede aquí algo muy diferente de lo que ocurre en otras ramas de la medicina, en que la investigación de laboratorio y la experimentación en el animal han dado frutos y han llevado al conocimiento de hechos aplicables y aplicados a la medicina humana. La bacteriología, la inmunología, las enfermedades infecciosas, han recogido hechos en el laboratorio y los han aplicado al hombre; lo mismo puede decirse de la higiene, de la medicina tropical, ramas de aquéllas. El conocimiento de las enfermedades de la nutrición y su clínica han nacido de la fisiología experimental. La farmacodinamia ha sido y es la primera etapa de la terapéutica humana. En cancerología no ha pasado nada semejante y hoy estamos, en cuanto a hechos útiles, *a fojas uno.*

Es necesario reconocer que la anatomía patológica creó la cancerología, cuando la morfología macro y microscópica del cáncer era desconocida; estudió y clasificó todas las variedades de tumores; pero hoy ha agotado su estudio y ha pasado a ser una rama auxiliar de la cancerología, de importancia capital, pero auxiliar, como el radiodiagnóstico, el laboratorio, etc.

Casi simultáneamente, la anatomía patológica extendió sus actividades a la cancerología experimental. Se hicieron cultivos de tejidos; se logró producir el cáncer experimental, se descubrió una serie de productos cancerígenos. Se trata de adquisiciones de

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considerable valor, cuya evidencia no puede ser puesta en duda y que tienen verdadera importancia; pero ninguna ha servido para ser aplicada al hombre, para la profilaxis o la curación del cáncer. El cáncer se trata en la actualidad, como antes, por métodos empíricos, extirpándolo o destruyéndolo.

Hay algo más. La cancerología experimental, nacida de la anatomía patológica, ha agotado sus posibilidades con los métodos usados hasta la actualidad, sin lograr su objeto. Ha llegado a un *impase,* más allá del cual el camino le está vedado. Se podrá variar al infinito el modo de cultivar los tejidos y la forma de producir el cáncer en el animal; se aumentará el catálogo de las substancias capaces de producir el cáncer. Pero todo ello no agregará nada nuevo a lo ya conocido. Será necesario orientar la investigación cancerológica por otro camino, ir a la intimidad de la materia para ver qué pasa cuando un organismo celular sufre una transformación cancerosa; cuáles son las alteraciones en la estructura del edificio molecular.

Es evidente que algo ocurre en el seno de la materia cuando una célula degenera; pero estas perturbaciones de la materia nos son desconocidas. No es posible negar la influencia de los agentes cancerígenos en la etiología del cáncer; pero ¿qué se sabe de su modo de actuar? ¿cómo es que una hormona hace degenerara un grupo celular y le obliga a evolucionar en forma anormal? ¿qué le ocurre a un epitelio irritado cuando da origen a un tumor? *No sabemos.*

Es evidente que algo sucede en las albuminas *vivas* que constituyen la célula; es lógico pensar que son las albúminas del núcleo las que sufren esas modificaciones porque, según lo que se sabe, hay motivos para atrobuirle todos los fenómenos de la multiplicación celular. Pero no sabemos en qué medida las otras partes de la célula, en especial el protoplasma, intervienen en la transformación; también es lógico pensar que actúa como intermediario en las transformaciones nucleares, o que las determina. Estas son hipótesis, que el espíritu encuentra acertadas, pero que no han sido demostradas objetivamente. Lo indudable es que cualquier *agente cancerígeno,* haya sido puesto en evidencia o no, sea o no sospechado, determina una alteración de las albúminas celulares, que es causa y motor de la evolución anormal de la célula en el sentido de la transformación cancerosa. Pero ¿cuál es esta transformación? Estamos lejos de saberlo, como estamos lejos de saberlo casi todo de la estructura de la materia que constituye los seres vivos. ¿Porqué una albúmina tiene esa potencialidad que permite los fenómenos de naturaleza físicoquímica que caracterizan la vida? No es suficiente decir: porque es una albúmina.

En la vida del hombre se observan, cada momento, fenómenos semejantes, de los cuales ignoramos todo. Pensemos qué es la memoria. De acuerdo con nuestra concepción materialista de la naturaleza, el hecho de fijar en la memoria un conocimiento cualquiera debe, necesariamente, ir seguido de una modificación en la naturaleza íntima de las albúminas celulares; hay razones para pensar que esto ocurre en las células de la corteza cerebral. Cuando aquel hecho es recordado, ello es posible sólo merced a tal modificación, que se había producido en un lugar determinado, en el seno de una molécula albuminoidea. Lo mismo, pensamos, sucede con la herencia; ¿qué sucede en la intimidad de las albúminas celulares cuando se transmiten los caracteres hereditarios, y no sólo los de orden morfológico, sino hasta las características espirituales y aún las costumbres adquiridas? Es evidente que hay mucho de desconocido en la estructura de nuestra materia; que en su intimidad pasan cosas que no hemos alcanzado aún, que estamos lejos de alcanzar.

Creo que es allí donde hay que buscar el origen del cáncer. Es preciso ver qué sucede en el seno de las albúminas tisulares; cuál es el desarreglo que produce un *estímulo cancerígeno.* Cuando sepamos eso, podremos, tal vez, tener el medio de corregir dicha desviación, de evitarla o compensarla. Desgraciadamente estamos muy lejos de ello. Será necesario profundizar en el seno de la materia para conocerla bien. Pero ello escapa a la tarea de los médicos; hay que recurrir a la físicoquímica, llegar a analizar y a desarmar el complejo edificio de la molécula albu-

minoidea. Los hombres de ciencia consiguieron desintegrar la materia para extraer de ella, con fines de destrucción, toda la energía que podía ser obtenida. No es necesario decir cúan doloroso es esto; pero es posible que por el mismo camino se obtengan bienes para el hombre. Se ha empezado a conocer la materia; las rutas están trazadas; con este conocimiento, en forma deliberada o accidental, se llegará a descubrir hechos nuevos, útiles. Es seguro que por este camino se podrá conocer más íntimamente la verdadera naturaleza de la transformación cancerosa. Cuando se trabaja en cualquier investigación físicoquímica, dirigiendo la búsqueda en un sentido determinado, se pasa por una serie de etapas, muchas de las cuales constituyen hechos o adquisiciones útiles, a los que no se buscaba, pero que salieron al camino y a su vez abren nuevos rumbos y plantean nuevos problemas que merecen ser estudiados. Ya ha llegado a saberse que algunas adquisiciones obtenidas en el curso de los estudios de desintegración atómica han sido considerados útiles para profundizar el estudio del cáncer; muchos investigadores están ya en esta tarea.

Si queremos marchar y avanzar en este terreno debemos reconocer esto y proceder en consecuencia. La investigación cancerológica no puede detenerse a observar la estructura de los tejidos y el aspecto de las células; es necesario montar laboratorios destinados a estudios físicoquímicos; su costo será muy grande, pero ello no debe ser un obstáculo. Serán necesarios, asimismo, investigadores que trabajen en equipo, no médicos, sino especializados en físicoquímica.

Habrá que destinar a ello lo necesario, sin fijarse en el precio. Los resultados no serán inmediatos, pero algo se obtendrá. En el peor de los casos, se llegará a una serie de descubrimientos accidentales, muchos de ellos de utilidad práctica, y se formará una legión de investigadores que serán útiles al país por sus hábitos de labor y disciplina científica.

De acuerdo con lo que acabamos de decir, el tratamiento etiológico del cáncer y su profilaxia racional están lejos de ser posibles. Pero, entretanto, ¿qué hacer con los cancerosos? Este es el punto de interés inmediato de mayor importancia. Mientras se investiga y hasta que se llega a obtener algún resultado, habrá que curar a los cancerosos con los métodos empíricos de que disponemos. La cancerología, que al principio creyó ver en la experimentación una fuente de recursos de aplicación inmediata, ha sufrido una decepción; la experimentación no le ha dado nada. Hace dos décadas se consideraba que el cancerólogo debía ser un patólogo, investigador y hombre de laboratorio; su función era tratar a los cancerosos con los frutos de su investigación y transplantar al laboratorio los hechos de la clínica. La experiencia ha demostrado que se estaba en un error; mejor dicho, sería un error continuar, en el futuro, en esa forma. La evolución de la cancerología ha exigido que los hombres dedicados a ella sigan dos caminos diferentes; unos se han dedicado a la experimentación o a la patología; otros al tratamiento. La cancerología se ha dividido en dos actividades bien distintas: *la cancerología clínica y la cancerología experimental. La cancerología clínica* debe curar a los enfermos con los recursos que hay tiene a su alcance. A la *cancerología experimental* se le ofrece un dilema de vida o muerte; o seguir con los procedimientos usados hasta ahora, que ya resultan anticuados, y perecer; o recrearse y nacer de nuevo sobre la base de los estudios de físicoquímica. La concerología clínica tendrá que sucumbir cuando aquélla proporcione la solución del problema del cáncer, diga qué es, cómo se evita y cómo se cura.

Entretanto, habrá que curar a los concerosos con los recursos empíricos de que disponemos. Estos se reducen a *extirpar el cáncer o destruirlo,* misión modesta en su esencia, pero compleja en su realización. La *profilaxis* del cáncer no existe; la llamada *profilaxis anticancerosa* no es tal; solo es el examen minucioso del enfermo a través de una sospecha sistemática, ante síntomas poco ruidosos, a del hombre sano, para descubrir un tumor silencioso. Nada que puedo servir para evitar que el cáncer se produzca, que sería la verdadera profilaxia, puede ser aplicado.

Anestesia General Endovenosa con Dorico Soluble en Traumatología Infantil

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CASOS CLINICOS

1. A. T. de 10 años de edad. Fractura del antebrazo izquierdo, fragmento radial desplazado hacia adelante y cubital hacia atrás, cabalgamiento de 1 cm.

Reducción ortopédica mediante dispositivo Sokolowsky con anestesia general al Dorico Soluble.

2. D. P. de 6 años de edad. Fractura del antebrazo derecho en su tercio medio con desplazamiento hacia atrás de los fragmentos distales, 2 cm. de cabalgamiento. Angulación abierta hacia atrás.

Reducción ortopédica con el dispositivo Sokolowsky con anestesia general al Dorico Soluble. Resultado: reducción y afrontamiento perfectos.

3. V. F. de 11 años de edad. Fractura con arrancamiento del antebrazo izquierdo. Arrancamiento óseo del ángulo posterior de la metafisis izquierda y desprendimiento hacia atrás del núcleo epifisario de este mismo hueso.

Reducción ortopédica con el dispositivo Sokolowsky, anestesia general al Dorico Soluble. Resultado: reducción perfecta.

4. J. L. de 9 años de edad. Fractura del tercio medio del antebrazo derecho con desplazamiento posterior del radio.

Tratamiento ortopédico con el dispositivo Sokolowsky. Anestesia general endovenosa al Dorico Soluble. Resultado: reducción perfecta.

5. A. G. de 10 años de edad. Fractura del antebrazo derecho, tercio inferior, sin desplazamiento, ligera angulación hacia adentro para el radio.

Tratamiento: reducción ortopédica con dispositivo Sokolowsky con anestesia general endovenosa al Dorico Soluble. Resultado: reducción perfecta.

6. D. G. de 11 años de edad. Fractura del femur derecho en su tercio medio, fragmento distal desplazado hacia afuera y atrás.

Tratamiento: reducción ortopédica en la mesa de Hawley con anestesia general endovenosa al Dorico Soluble. Resultado: reducción perfecta.

7. T. O. de 11 años de edad. Fractura del antebrazo izquierdo en su tercio inferior con desplazamiento hacia atrás de los fragmentos distales, con 1 cm. de cabalgamiento.

Tratamiento: reducción ortopédica con el dispositivo Sokolowsky bajo anestesia general endovenosa al Dorico Soluble. Resultado: reducción perfecta.

LA ANESTESIA Y SU TÉCNICA

En todos estos casos, como puede apreciarse por el resumen de los casos clínicos se recurrió a la anestesia general empleándose, para ello, la vía endovenosa y utilizándose el Dorico Soluble, que es la sal sódica del acido N metil cicloexanil metil barbitúrico. Se presenta en forma de un polvo blanco en ampollas de 0,5 grm. y de 1 grm.

En ninguno de los casos historiados se utilizó medicación pre anestésica, habiendose tenido la precaución únicamente, después de un examen clínico completo, de no darle alimentos para contar con una vacuidad gástrica completa.

La preparación de la solución anestésica se ha realizado momentos antes de su uso, habiéndose empleado para las fracturas del miembro superior ampollas de 0,5 grm. en 20 cc. de agua destilada y para el caso de la fractura del miembro inferior ampolla de 1 grm. en la misma cantidad de agua destilada. Pacientes en decúbito dorsal, colocación de una mariposa de algodón adherida al labio superior y lóbulo

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nasal, para seguir en forma visible el curso de la respiración. Un ayudante mantiene constantemente la mandíbula inferior hacia adelante para facilitar la respiración.

La inyección se ejecuta en la vena del pliegue del codo mantebiendo la aguja introducida durante todo el tiempo que dura la anestesia.

La inyección se inicia en forma lenta e intermitente invitándose al enfermo a contar en voz alta. Los afectos anestésicos comienzan a produeirse alrededor de los 20 a 30 segundos que corresponderían a 2 cc. de la solución inyectada como dosis inicial. En este periodo de la anestesia la respiración es regular y amplia, la pupila se dilata ligeramente. Con 30 segundos de intervalo se reinicia la inyección en forma también lenta y cuidadosa agregando 1 cc. cada lapso similar de tiempo. A los 45 segundos o al minuto se pueden iniciar las maniobras de reducción ósea, pues ya en este momento la relajación muscular es casi completa, miosis y reflejo palpebral negativo. Este momento ha sido precedido, en dos de los casos, de contraciones de grupos musculares parciales, habiéndose iniciado estas por las de los grupos musculares de la cara y extendiéndose a otros grupos musculares sin llegar, en ningún momento, a ser alarmantes y que cesaron después de pocos segundos para quedar en un estado de anestesia completa. En esta fase se ha constatado siempre una discreta baja de la presión arterial—de 10 a 9 mlm.—que dura todo el estado anestésico recuperando su estado normal con la recuperación de la conciencia.

El pulso se acelera en todo el tiempo de la anestesia, para volver a la normalidad apenas cesa ésta.

La respiración siempre ha sido profunda y regular. No se ha presentado cianosis no dificultades circulatorias.

La duración de la anestesia ha sido de 20 a 30 minutos para las intervenciones en el miembro superior habiendo sido necesario únicamente la inyección de 9 a 10 cc. de la solución. Para la intervención en el miembro inferior ésta ha sido de 1 hora más o menos incluyendo la reducción y la colocación del yeso pelvi-crurio-pedio inyectándose en este caso solamente 14 cc. de la solución.

Retirada la aguja el paciente continua en estado de anestesia un tiempo variable de 40 a 60 minutos con sueño normal y tranquilo. Jamás se han presentado convulsiones ni cuadros tóxicos o de cualquier otra complicación. El despertar ha sido paulatino, tranquilo y sin la molestia de los vomitos post anestésicos.

Seis de estos pacientes han sido tratados ambulatoriamente y después de un reposo prudencial, fluctuante entre 90 minutos a dos horas se han retirado a sus domicilios en perfectas condiciones.

Estas cuidadosas observaciones nos permiten formular las siguientes conclusiones preliminares que ampliaremos o confirmaremos con una casuística más nutrida:

1. La anestesia endovenosa con DORICO SOLUBLE es una buena anestesia para emplearla en traumatología infantil.

2. Esta anestesia es bien tolerada por los pacientes produciendo una anestesia perfecta y profunda.

3. Produce una anestesia casi inmediata sin requerir grandes cantidades de su solución y se elimina también rápidamente volviendo a readquirir se la conciencia en tiempo relativamente corto pudiéndose le utilizar especialmente para la atención ambulatoria.

4. No se presenta los inconvenientes del vómito post anestésico así como períodes de exitación.

5. Es recomendable la inyección lenta e intermitente de su solución.

6. Es también recomendable el examen clínico previo del paciente.

Catarata Senil

Estadística de los Últimos 100 Casos

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LA intervención de catarata es, sin duda alguna, la que mayores dificultades técnicas presenta y, a la vez con mayores proyecciones para la felicidad de los pacientes, de ordinario en el atardecer de la vida.

He creído interesante exponer el sistema que rutinariamente sigo y los resultados conseguidos en los últimos 100 casos.

Desde que Daviel en 1745 realizó la primera extracción, hasta nuestros dias, en que se realiza en forma diferente, se han ido perfeccionando los métodos para llegar con más seguridad a resultados anatómica y funcionalmente perfectos.

Cada cirujano realiza la intervención siguiendo tal o cual método y siempre poniendo algo personal que en su mano ha funcionado bien y le ha dado buen resultado.

Yo por mi parte sigo la técnica de Castroviejo con algunas variantes personales, con los resultados que luego veremos.

Examen Previo del Operado.—El examen previo del operado, abarca el examen local y el examen general.

(a) El examen local.—En esta parte de la exploración, que debe ser completa, hay que considerar: 1°—el examen cuidadoso de la conjuntiva, llevado hasta la exageración; en casos de duda de existencia de infección, llevarlo hasta realizar cultivos, para determinar la naturaleza de los gérmenes y el tratamiento previo a toda intervención. El examen de la conjuntiva bulbar debe ser continuado de la conjuntiva parpebral y de los bordes ciliares, asi como de la piel, región de los párpados y vecinas de la cara. La córnea y medios transparentes, deben también ser meticulosamente explorados.

2°—el examen del cristalino debe realizarse al natural y bajo la acción de un midríatico; personalmente uso la homotropina asociada con cocaína que permite una midríasis óptima, pasajera y de fácil reducción en el caso de despertar un sindrome hipertensivo que ha estado en latencia en el paciente. Bajo la acción del midríatico, expuesto así el cristalino íntegramente a la exploración, se hace el examen cuidadoso de éste a la lámpara de hendidura, exploración que permite el estudio de la estructura cristaliniana y da lugar a seguridad en el acto operatorio, conociendo el grado de cataractación del cristalino que tratamos.

3°—Exploración del fondo de ojo.—Muchas veces no nos es posible realizar este examen ya que muchos de los pacientes vienen a nosotros con el cristalino completamente cataractada y opaco, imposibilitando asi la observación directa al oftalmoscopio; no es así cuando los pacientes son seguidos por el oculista desde el momento en que la intumescencia se inicia y se hace la indicación operatoria en el momento óptimo, para la mayor seguridad de la extracción total. En el caso de venir el paciente con el cristalino totalmente opaco, la exploración del fondo de ojo nos es posible realizarla, solamente en forma indirecta a través del examen de la proyección luminosa, exploración que se debe hacer con mucha meticulosidad ya que es mediante ella que se puede prever el resultado óptico tan deseado por el paciente. De paso diré que nunca intervengo cuando la catarata está presente sólo en un ojo, salvo hincapié del paciente en su deseo de ser operado.

Al examen local, llevado en este forma, debe continuar el examen general. Acostumbro dirigir al paciente a su médico general y sí no lo tiene a alguno de mi confianza, para

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que practique el examen clínico general al cual se adjunta el examen de laboratorio completo, investigando la lúes por las reacciones serológicas; por el hemograma y la velocidad de sedimentación las infecciones focales; por la glicemia la diabetes; por la radiografía la tuberculosis y estados bronquíticos crónicos; en el aparato cardio-renal; poniendo atención en el estado de la tensión arterial y el estado cardíaco en sí. Del tubo digestivo, especial atención en el estreñimiento, si es que el enfermo padece de este mal, y de la impresión que el clínico tiene acerca del psiquismo del enfermo, factor tan importante en el acto operatorio mismo.

Una vez que el paciente pasa por todos estos examenes previos de orden local y general y lo encontramos normal o balanceado con terapéutica eficiente, entremos así al momento operatorio.

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En el momento operatorio podemos comprender dos actos: la preparación previa e inmediata y la operación mismo. En la preparación previa comprendemos la antisepsia local que llevamos a cabo mediante el jabonamiento de cejas, región orbitaria, especialmente pestañas, y la desinfección por medio de argirol al 40 por ciento puesto la víspera por medio de instilaciones; y en la preparación inmediata comprendemos nuevamente instilación de argirol al 40 por ciento, añadido esta vez de una solución de atropina al 2 por ciento, puesta cada media hora, dos horas antes de la intervención lo que permite una midríasis absoluta. La anestesia previa la realizamos mediante instilaciones de cocaína al 5 por ciento cada tres minutos, durante la media hora previa a que el enfermo sea llevado a la sala de operaciones.

La operación misma.—El jabonamiento de la piel hecho previamente, es seguido de la *toilette* realizada con alcohol yodado que asegura aún más la asepsia de la piel.

El ojo anestesiado mediante la instilación de cocaína recibe la anestesia propiamente tal por inyección de una solución de cocaína al 2 por ciento con adrenalina en cantidad más o menos de 1 cc. con 3 gotas de adrenalina. El globo está en esta forma perfectamente anestesiado y se puede hacer toda intervención con la seguridad de hacerla indolora.

La anestesia de la piel de los párpados la realizo siguiendo el método de Van Lint que da una aquinesia perpebral perfecta, mediante la inyección de una solución de novocaína al 4 por ciento en cantidad de 5 cc. que logra el efecto deseado. Igualmente empleo parte de esa misma solución en hacer la inyección retrobulbar de novocaína para anestesiar el ganglio ciliar que permite una hipotonía permenente del globo durante el acto operatorio, evitando así las complicaciones de la subida de tensión y descompresiones que durante la intervención sufre el globo mismo. En estas condiciones tenemos una anestesia perfecta extrínseca e intrínseca y una aquinesia de los párpados perfecta igualmente.

Acto quirúrgico mismo.—Sigo la técnica de mi maestro, el Dr. Castroviejo, que aconsejó seguir a todos los que se inician, por su simplicidad y por las ventajas que en el acto operatorio iremos anotando. Dentro de la técnica que sigue Castroviejo, prefiero hacer algunas modificaciones personales que quizá en manos propias son ventajosas pero que en todo caso son fruto de mi experiencia, considerando que ellas mejoran el sistema original; por ejemplo: reemplazo los separadores mosquito por el blefaróstato, pues además de tener la gran ventaja de ser un instrumento único destinado a realizar la separación de los párpados, dado que con los mosquito *lids clamps* es muy frecuente que se suelte uno, o quede muy templado el otro, produciendo una desigual tracción sobre los párpados que deben ser uniformemente distendidos; el blefaróstato que empleo es el modelo Lancaster. Entreabriendo así en forma uniforme los párpados, procedo a hacer la disección del colgajo conjuntival por intermedio de una fina pinza de dientes y realizo la sección mediante tijeras conjuntivales; en esa forma tallo un colgajo que abarca todo el hemiglobo superior a unos dos y medio milimetros por fuera del limbo corneal; aseguro así una protección a la herida operatoria perfecta, que es una garantía del curso post-operatorio. Diseco el colgajo hasta llegar al límite conjuntivo-corneal; en este momento, cuando aún el globo no está abierto y por consiguiente se puede emplear

toda fuerza externa sin riesgo ninguno para el interior del ojo, pongo dos puntos, que por el momento son conjuntivo-esclerales, con seda atraumática 8 ceros y que luego serán los puntos básicos de la sutura, que en fin, de cuentas, al terminar la operación, serán conjuntivo-esclero-conjuntivales, permitiendo así una adaptación perfecta de los labios de la herida operatoria, y una seguridad absoluta en que la cicatriz sea plana y permita a la vez la movilización del enfermo lo más pronto posible.

Hechos estos puntos previos a la entrada en el interior del globo, y con el colgajo conjuntival extendido sobre la córnea, con la pinza de fijación, inmovilizo el globo en el meridiano inferior y en el limbo esclero corneal y mediante el queratótomo modelo Berens entro en la cámara anterior, en forma de ir exactamente en el limbo esclero-corneal. Ensancho la insición con la tijera de punta roma de Castroviejo y observo entonces la amplitud de la incisión y si es posible la salida del cristalino para ella, sin que el obstáculo del colgajo sea un motivo de entorpecimiento en la operación.

Con esta forma de proceder, aunque no se tiene la elegancia que significa hacerlo con el cuchillete, se tiene las más amplias seguridades de hacer una incisión córneo-escleral perfecta y adaptada a las necesidades de la extracción del cristalino; en cambio, con el cuchillete a pesar de la habilidad manual que se puede adquirer en su manejo, no siempre se tiene ni el tallo de la incisión por donde se quiere, ni el colgajo conjuntival deseado para obtener una herida operatoria perfecta, una incisión limpia y una protección al endo globo post-operatoria deseada. Me ha sido dado observar aquí y en el extranjero cuántas ventajas tiene el proceder con el queratótomo, antes que con el cuchillete. A mayor abundamiento, el poco movimiento quirúrgico de nuestro medio es una razón más, para que la destreza en el uso del cuchillete sea difícil y las ventajas del uso del queratótomo sean mayores por esta causa.

Otra razón pesa a favor de nuestra técnica y es la gran ventaja que significa que el operador no cambie su posición en la cabecera de la mesa de operaciones, cosa que tiene necesariamente que realizarse usando el cuchillete, a no ser que el operador sea ambidextro; con el queratótomo, siempre el operador está en la misma posición, se trate del ojo derecho o del ojo izquierdo del paciente; con el cuchillete el operador necesariamente para el ojo izquierdo tiene que cambiar su posición después de haber hecho la incisión, y en el momento en que cualquier cambio o movimiento brusco puede decidir el éxito de la operación.

Tenidos así el colgajo perfecto y la incisión amplia, observo el estado de la pupila; si la pupila ha mantenido su midríasis completa y el ojo del operado es de buen tamaño, procede a hacer la iridectomia periférica de seguridad post-operatoria que realizo con una pinza de iris angulada y la pinza tijera de iris de Barraquer. Si sangra la sección del iris o quedan restos pequeños de sustancia iriana, hago un lavado con una solución de suero fisiológico al tercio y arrastro así todos los elementos que más tarde pudieran servir como sustancias extrañas: enseguida procedo a la extracción.

No me acomodo con la pinza en X de Castroviejo, con la que sólo he podido trabajar en muy pocos de los casos, encuentro en cambio mucho más manuable la pinza de Arruga modificada por Gill, la que si me acomoda muy bien. Cojo la cápsula y con un gancho de estrabismo luxo el cristalino de su inserción inferior: enseguida con movimientos suaves, muy suaves, de rotación, por medio de la pinza Gill-Arruga y tracción ligera, haciendo presión sobre el globo con el gancho, mediante sinergia de estos movimientos, realizo la extracción del cristalino.

De ordinario, y ya lo veremos en nuestra estadística, viene el cristalino completo dentro de su cápsula. Puede suceder a veces que el estado de hipermadurez del núcleo produzca eclosión del contenido capsular y que la extracción no sea total; en ese caso, después de realizar la completa sutura de la porción inferior del colgajo a puntos previos conjuntivo-esclerales y teniendo así un afrontamiento conjuntivo-esclero-conjuntival, realizo el lavado de la cámara anterior en forma prolija y minuciosa de modo de completar el resultado perfecto de la extracción a la

pinza y consiguiendo en muy alto porcentaje el área pupilar libre de restos y un resultado óptico muy semejante al de la extracción total.

En uno o en otro de los casos apuntados, completo la readaptación de la incisión con puntos conjuntivo-conjuntivales permitiendo así un afrontamiento absoluto y una independencia del medio interior ocular, de los agentes externos.

Terminada así la operación, instilo siempre unas gotas de atropina e introduzco inyectando suavemente antisépticos tipo metafén y últimamente la pomada oftálmica a base de penicilina. Ocluya ambos ojos, oclusión binocular que mantengo de ordinario 48 horas y a veces solamente de 6 a 12, para continuar después con un vendaje monocular que varía según el post-operatorio del sujeto.

De los enfermos 100 de cataratas seniles que consideramos, 88 han sido intra-capsulares; 12 extra-capsulares; de las intra-capsulares 63 son con iridectomia total; 10 con iridectomia periférica y 5 sin iridectomia; tenemos, pues, un 88 por ciento de operaciones de catárata senil intra-capsular y un 12 por ciento extra-capsular; estos porcentajes no son muy cortos, ya que comparados con resultados obtenidos en medios mucho más adelantado que el nuestro, no tienen nada que ocultar y al contrario la satisfacción de ser exhibidos y no como realizaciones personales, sino como casos hechos en el país.

En efecto, las estadísticas de Elschnig en 1931 dan el 68 por ciento, de Castroviejo en 1929 el 80 por ciento, de Sinclair en 1934 el 79 por ciento, de Saint Martin en 1934 el 63 por ciento, de Beillart en 1934 el 70 por ciento, de Porte en 1937 el 56 por ciento, de Case en 1938 el 89,4 por ciento, de Appleman en 1938 el 58,4 por ciento.

De los 100 casos no hemos tenido uno solo de infección post-operatoria y tampoco un solo caso de hemorragia. En 5 casos en el acto operatorio se ha producido pérdida vítrea, accidente al que por otro lado no hemos dado ninguna importancia dado que a las 48 horas el humor vítreo, está regenerado totalmente. En 7 casos hemos intervenido en ojo único, condición que debe tenerse en cuenta por la agravación que al acto operatorio añade esta circunstancia. De 100 casos hemos intervenido 4 veces sobre ojo glaucomatoso atacado de catarata, condición ésta que igualmente agrava la intervención; en 3 casos hemos intervenido sobre pacientes cuyo aparato lagrimal estaba afecto de daeriocistitis crónica, que tratada previamente, nos aseguraba actuar en terreno aséptico, pero que siempre significan un riesgo mayor por el estancamiento del desagüe lagrimal; en 7 casos hemos actuado en terreno diabético, sin que ninguno de ellos se nos haya dado observar transtornos post-operatorios inmediatos; dos de ellos han terminado en atrofia tardía (más de dos años de operados) por la nutrición defectuosa del diabético.

Los resultados ópticos obtenidos han sido la consecuencia lógica de la estadística; en efecto, 80 por ciento de visiones por encima de 7 décimos; 16 por ciento entre tres y seis décimos; 2 por ciento de dos décimos; a dedos de agudeza visual y un 2 por ciento de atrofia post-operatoria tardía, en los sujetos diabéticos que nos ha tocado intervenir.

En consecuencia exhibimos una casuística de 100 operados con un porcentaje realmente halagador y que habla de la bondad del método empleado y de los cuidados que en el momento y después de la operación hemos tenido con nuestros pacientes.

ESTADISTICA

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17—Sr. S. K. 71 a. Cat. O. I.—Extrac. intra-capsular. Irid. total. C. L. H. L. AV.—1.

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23—Sra. L. L. B. 79 a. Cat. O. I.—Extrac. intra-capsular. Irid. total. C. L. H. L. AV.—atrof. tardía.

24—Sra. J. D. 63 a. Cat. O. I.—Extrac. intra-capsular. Irid. total. C. L. H. L. AV.—1.

25—Herm. J. 58 a. Cat. O. D.—Extrac. extra-capsular. Irid. total. C. L. H. L. AV.—dedos.

26—Srta. H. J. 71 a. Cat. O. D.—Extrac. intra-capsular. Irid. total. C. L. H. L. AV.—7/10.

27—Sr. M. V. 79 a. Cat. O. D.—Extrac. intra-capsular. Irid. total. C. L. H. L. AV.—7/10.

28—Sr. A. B. 70 a. Cat. O. D.—Extrac extra-capsular. Irid. total. C. L. H. L. AV.—1.

29—Sra. R. O. 58 a. Cat. O. D.—Extrac. intra-capsular. Irid. total. C. L. H. L. AV.—1.

30—Sra. E. R. H. 72 a. Cat. O. I.—Extrac. intra-capsular. Irid. total. C. L. H. L. AV.—5/10.

31—Srta. M. S. 62 a. Cat. O. I.—Extrac. intra-capsular. Irid. total. C. L. H. L. AV.—2/10.

32—F. F. 78 a. Cat. O. I.—Extrac. intra-capsular. Irid. total. C. L. H. L. AV.—1.

33—Srta. J. B. 56 A. Cat. O. I.—Extrac. intra-capsular. Irid. total. C. L. H. L. AV.—1.

34—Sr. J. L. 69 a. Cat. O. I.—Extrac. extra-capsular. Irid. total. C. L. H. L. AV.—3/10.

35—Sra. L. M. 81 a. Cat. O. I.—Extrac. intra-capsular. Irid. total. C. L. H. L. AV.—7/10.

36—Sr. H. G. 60 a. Cat. O. I.—Extrac. intra-capsular. Irid. total. C. L. H. L. AV.—atrofia tardía.

37—Sr. E. M. 70 a. Cat. O. I.—Extrac. intra-capsular. Irid. total. C. L. H. L. AV.—5/10.

38—Sra. R. 74 a. Cat. O. I.—Extrac. intra-capsular. Irid. total. C. L. H. L. AV.—1.

39—Srta. M. I. A. 70 a. Cat. O. D.—Extrac. intra-capsular. Irid. total. C. L. H. L. AV.—1.

40—Sra. A. M. B. 78 a. Cat. O. I.—Extrac. intra-capsular. Irid. total. C. L. H. L. AV.—7/10.

41—Sr. T. G. L. 68 a. Cat. O. I.—Extrac. intra-capsular. Irid. total. C. L. H. L. AV.—1.

42—Sra. F. R. 64 a. Cat. O. D.—Extrac. intra-capsular. Irid. total. C. L. H. L. AV.—1.

43—Sra. A. B. 70 a. Cat. O. I.—Extrac. extra-capsular. Irid. total. C. L. H. L. AV.—7/10.

44—Sr. O. F. 70 a. Cat. O. D.—Extrac. intra-capsular sin irid. C. L. H. AV.—1.

45—Sra. E. de V. 72 a. Cat. O. D.—Extrac. intra-capsular sin irid. C. L. H. L. AV.—1.

46—Sra. M. F. 73 a. Cat. O. D.—Extrac. intra-capsular. Irid. total. C. L. H. L. AV.—1.

47—Sr. G. Z. 75 a. Cat. O. I.—Extrac. intra-capsular. Irid. total. C. L. H. L. AV.—1.

48—Sr. L. de V. 48 a. Cat. O. D.—Extrac. extra-capsular. Irid. total. C. L. H. L. AV.—7/10.

49—Sra. M. de N. 75 a. Cat. O. I.—Extrac. intra-capsular. Irid. total. C. L. H. L. AV.—7/10.

50—Sra. G. F. 67 a. Cat. O. I.—Extrac. intra-capsular. Irid. total. C. L. H. L. AV.—8/10.

51—Sra. E. T. 74 a. Cat. O. I.—Extrac. intra-capsular. Irid. total. C. L. H. L. AV.—dedos.

52—Sr. J. R. 80 a. Cat. O. I.—Extrac. intra-capsular sin irid. C. L. H. L. AV.—1.

53—Sra. M. R. 62 a. Cat. O. D.—Extrac. intra-capsular. Irid. total. C. L. H. L. AV.—1.

54—Sra. E. de Ch. H. 85 a. Cat. O. I.—Extr. intra-capsular. Irid. total. C. L. H. L. AV.—6/10.

55—R. Dentz 53 a. Cat. O. D.—Extr. intra-capsular. Irid. total. C. L. H. Obrero AV.—6/10.

56—Sr. S. 59 a. Cat. O. I.—Extr. extra-capsular. Irid. total. C. L. H. del N. AV.—5/10.

57—Sra. A. M. B. 78 a. Cat. O. D.—Extr. intra-capsular. Irid. total. C. L. H. L. AV.—1.

58—Fray G. 66 a. Cat. O. I.—Extr. intra-capsular. Irid. total. C. L. H. L. AV.—4/10.

59—Srta. M. T. A. M. 64 a. Cat. O. D.—Extr. intra-capsular. Irid. total. C. L. H. L. AV.—4/10.

60—Sr. J. de la S. 73 a. Cat. O. I.—Extr. intra-capsular. Irid. total. C. L. H. L. AV.—1.

61—Sra. A. de V. 72 a. Cat. O. I.—Extr. intra-capsular. Irid. total. C. L. H. L. AV.—1.

62—M. H. 59 a. Cat. O. D.—Extr. intra-capsular. Irid. total. C. L. H. L. AV.—1.

63—Sra. M. O. 62 a. Cat. O. D.—Extrac. intra-capsular. Irid. total. C. L. H. L. AV.—1.

64—Sra. E. G. 73 a. Cat. O. I.—Extr. intra-capsular. Irid. total. C. L. H. L. AV.—1.

65—Sra. J. V. 77 a. Cat. O. D.—Extr. extra-capsular. Irid. total. C. L. H. L. AV.—3/10.

66—Sra. L. D. 59 a. Cat. O. D.—Extr. intra-capsular. Irid. total. C. L. H. L. AV.—1.

67—Sra. M. U. 64 a. Cat. O. I.—Extr. intra-capsular. Irid. total. C. L. H. L. AV.—1.

68—P. J. del C. 80 a. Cat. O. D.—Extr. extra-capsular. Irid. total. C. L. H. del N. AV.—3/10.

69—Srta. M. I. A. L. 70 a. Cat. O. D.—Extr. intra-capsular. Irid. total. C. L. H. L. AV.—4/10..

70—Srta. T. S. 75 a. Cat. O. D.—Extr. extra-capsular. Irid. total. C. L. H. L. AV.—4/10..

71—Sra. T. S. 75 a. Cat. O. D.—Extrac. extra-capsular. Irid. total. C. L. H. L. AV.—1.

72—Sra. C. R. 81 a. Cat. O. I.—Extrac. intra-capsular. Irid. total. C. L. H. L. AV.—3/10.

73—Sra. R. N. 68 a. Cat. O. D.—Extrac. extra-capsular. Irid. total. C. L. H. L. AV.—5/10.

74—Sr. M. C. 57 a. Cat. O. D.—Extrac. intra-capsular. Irid. total. C. L. H. L. AV.—7/10.

75—Sr. M. V. 68 a. Cat. O. D.—Extrac. intra-capsular. Irid. total. C. L. H. L. AV.—1.

76—Sra. M. C. 60 a. Cat. O. D.—Extrac. intra-capsular. Irid. total. C. L. H. L. AV.—8/10.
77—Sra. E. Ch. 70 a. Cat. O. D.—Extrac. intra-capsular. Irid. total. C. L. H. L. AV.—3/10.
78—F. R. R. 91 a. Cat. O. I.—Extrac. extra-capsular. Irid. total. C. L. H. L. AV.—6/10.
79—E. O. 72 a. Cat. O. I.—Extrac. intra-capsular. Irid. total. C. L. H. L. AV.—1.
80—Sra. E. O. 72 a. Ct. O. D.—Extrac. intra-capsular. Irid. total. C. L. H. L. AV.—1.
81—Sra. A. M. 67 a. Cat. O. D.—Extrac. intra-capsular. Irid. total. C. L. H. L. AV.—7/10.
82—Sr. M. S. 56 a. Cat. O. I.—Extrac. intra-capsular. Irid. total. C. L. H. L. AV.—1.
83—Sr. M. S. 56 a. Cat. O. D.—Extrac. intra-capsular. Irid. total. C. L. H. L. AV.—1.
84—Sra. M. A. 78 a. Cat. O. I.—Extrac. intra-capsular sin irid. C. L. H. L. AV.—1.
85—Sra. E. G. 84 a. Cat. O. I.—Extrac. intra-capsular. Irid. total. C. L. H. L. AV.—1.
87—S. de A. 68 a. Cat. O. D.—Extrac. intra-capcular. Irid. total. C. L.—8/10.
88—I. A. 71 a. Cat. O. I.—Extrac. intra-capsular. Irid. total. C. L.—1.
89—A. I. 88 a. Cat. O. D.—Extrac. intra-capsular. Irid. perif. C. L.—1.
90—M. L. P. 68 a. Cat. O. I.—Extrac. intra-capsular. Irid. total. C. L.—1.
91—M. P. 64 a. Cat. O. D.—Extrac. intra-capsular. Irid. perif. C. L.—1.
92—S. L. F. 68 a. Cat. O. I.—Extrac. intra-capsular. Irid. total. C. L.—I.
93—A. G. 66 a. Cat. O. D.—Extrac. intra-capsular. Irid. perif. C. L.—1.
94—L. S. 68 a. Cat. O. I.—Extrac. intra-capsular. Irid. total. C. L.—I.
95—M. S. 70 a. Cat. O. D.—Extrac. intra-capsular. Irid. total. C. L.—I.
96—E. S. 68 a. Cat. O. I.—Extrac. intra-capsular. Irid. perif. C. L.—1.
97—N. S. 79 a. Cat. O. I.—Extrac. intra-capsular. Irid. total. C. L.—1.
98—J. R. 74 a. Cat. O. D.—Extrac. intra-capsular. Irid. total. C. L.—1.
99—S. L. 70 a. Cat. O. I.—Extrac. intra-capsular. Irid. total. C. L.—1.
100—R. O. 63 a. Cat. O. D.—Extrac. intra-capsular. Irid. total. C. L.—1.

ABREVIATURAS

C. L. H. L.: Clínica "Arzobispo Loayza."
C. H. del N.: Clínica Hospital del Niño.
H. Obrero: Hospital Obrero de Lima.
C. L.: Clínica Lozada.
A. B.: Agudeza visual igual A.

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El capítulo de los Estados Unidos del Colegio Internacional de Cirujanos convida cordialmente à los miembros de todos los capítulos del Colegio Internacional de Cirujanos à asistir à su XII asamblea nacional, la cual juntarà el 28, 29 y 30 de septiembre y el 1, 2, 3, y 4 de octubre de 1947, en Chicago, Illinois, EE.UU.